

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

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VOL. L. No. 11.
WEEKLY.

BALTIMORE, SEPTEMBER 27, 1906.

\$4.00 A YEAR.
(SINGLE COPIES, 10 CENTS.)

Manufacturers' Record.

PUBLISHED EVERY THURSDAY BY THE
MANUFACTURERS' RECORD PUBLISHING CO.
BALTIMORE.

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New York—52 Broadway.
Boston—170 Summer Street.
Chicago—135 Adams Street.
St. Louis—310 Equitable Building.

Charleston, W. Va.—ALBERT PHENIS,
Special Correspondent for West Virginia,
Kentucky and Southwest Virginia.

Subscription, - - - - - \$4 a year
(payable in advance) to United States,
Canada, Mexico, Cuba, Porto Rico, Hawaii
and the Philippines.

To Foreign Countries in the Postal Union,
\$6.50 a year.

[Entered at the Baltimore Postoffice as sec-
ond-class matter.]

BALTIMORE, SEPTEMBER 27, 1906.

BOSTON TO ADVERTISE ITS ADVANTAGES.

Boston has seized the opportunity of its 276th anniversary to launch a publicity bureau. A special appropriation of \$50,000 has been voted, and that amount, supplemented by subscriptions from merchants, will be devoted to advertising the city's attractions and its commercial and industrial possibilities.—*Wall Street Summary.*

The MANUFACTURERS' RECORD recently called attention to this move on the part of the city of Boston as an illustration of what even such a vast center of wealth and industry as that city is finds it wise to undertake in order to draw increased attention to itself. With Boston appropriating \$50,000 for advertising, to be supplemented by contributions from business men, and with St. Louis preparing to raise still larger sums than Boston for a broad advertising campaign, other municipalities, large and small, and railroads and business men generally to a greater extent than ever before will begin to appreciate that the moving power of the business world is advertising—broad, continued, persistent advertising. Never before in the world's history was there such a period of business expansion and such opportunities for enlarging trade. Every business man may in this time of sunshine well ask himself, "Am I making hay to the fullest possible extent?" If not, then he should move with all his power and strength to get his full share of this vast business expansion and prosperity.

V. G. Richardson & Co., Roanoke, Va.,
Southern representatives of Lawson's

looped section cableway, in a letter to the MANUFACTURERS' RECORD writes:

Having received over 200 inquiries with reference to our aerial tramways, we wish to say that we think your paper one of the most valuable mediums in the United States, especially to the Southern States. It seems that you have a great circulation through the South.

NORTH CAROLINA FURNITURE.

Between 1900 and 1905 the number of furniture manufacturing plants in North Carolina increased from 44 to 105, the capital invested in them from \$1,023,374 to \$4,621,994, the number of wage-earners from 1759 to 5164, and the value of the output from \$1,547,305 to \$6,181,619, raising furniture making from the seventh to the fifth place in the rank of the State's industries. This notable advance has come about through the utilization at home of some of the vast hardwood resources of the State, under the spur of experience at High Point that has changed that place within less than 20 years from a small town to the leading furniture manufacturing center of the South. A promise of still further realization of potentialities on this line is given in the fact that a Concord (N. C.) store is exhibiting in one of its windows a set of furniture made by five boys of that town who are members of the freshman class in the technological department of Newberry College, S. C. When the young men of any State take pride in making part of their education the acquiring of skill in turning into marketable products the raw material for industry of their State, proof is given that breathing the industrial atmosphere is having a most practical and gratifying effect. It would be well for North Carolina if it had at least 10,000 of its young men in institutions of its own training themselves to become the prime sharers in the benefits of North Carolina industrial development.

A COTTON EXHIBIT.

It is planned to make the next annual convention of the American Cotton Manufacturers' Association, formerly the Southern Cotton Spinners' Association, to be held at Philadelphia, Pa., May 15 and 16 next, the occasion for an exhibition by textile-machinery manufacturers and dealers of new devices and attachments for cotton-mill equipment, and by textile manufacturers of the different kinds of new goods they are producing. This exhibit will be limited to members of the association, active and associate, and if the idea is thoroughly developed it should result in accessions to the membership and additional interest in the convention. It will give the machinery people and the mill men an excellent opportunity to exchange views as to the needs of the industry and the means to meet the demand. If the exhibit of goods is made what it should be it will prove a revelation even to individuals who have a general acquaintance with the facts of the marvelous strides made by the textile industry in the South.

EVERYBODY'S OPPORTUNITY TO ADVERTISE.

As the great medium of communication between the people of all sections, North, West and South, the MANUFACTURERS' RECORD has established a special advertising department of "Classified Opportunities." To this new department we invite your attention as presenting an unequaled opportunity for small advertisements of almost every character. If you want to sell or to buy anything, if you are looking for business opportunities or for buyers or investors, if you are seeking employment or employees, if you want to buy or to sell a farm or a factory, a home or a hotel, "Classified Opportunities" presents to you your best opportunity. In fact, whatever may be your wants, as a buyer or a seller, a merchant or a manufacturer, a lawyer or a banker, a real-estate agent or an owner, a man wanting a job or a man having jobs for others, here is the place to make your wants known. Through this department you will be able to reach thousands of readers in all sections. The local paper, through which the bulk of small advertising of this kind has heretofore of necessity been done, reaches only the limited number of readers in its own community. The MANUFACTURERS' RECORD, on the contrary, reaches readers of all classes and in all sections. It is read alike by the foremost financiers of the North, West and South, as well as of Europe. It is read by the merchant and the manufacturer, the owner of the mill and the superintendent under him, by the land owner and the land buyer, the seller of machinery and the buyer of machinery, the teacher, the preacher, the lawyer, the doctor. Their wants are innumerable. Wherever in this country or abroad people are studying the material advancement of the South or the questions affecting the broadest upbuilding of every phase of Southern life, there the MANUFACTURERS' RECORD will be found. One or two facts will indicate something of the wideness of its circulation. A Baltimore banker, returning from Europe last week, stated that while attending the Peace Conference he introduced himself to John Sharp Williams of Mississippi simply on the ground of his intimate acquaintanceship with the MANUFACTURERS' RECORD, which was all the introduction needed to Williams and his friends. One of the party, a London man, when the name of the MANUFACTURERS' RECORD was mentioned, spoke up and said: "Of all American papers the one most widely read in London is the MANUFACTURERS' RECORD." Some time ago an officer of the British Iron Institute, requested by an American friend to present to a leading English duke, a man of large means and an investor in American enterprises, some coal property in Southeastern Kentucky, made an engagement to call on the duke in regard to the matter. When he undertook to discuss Eastern Kentucky and the South generally as the starting point for interesting him in this par-

ticular coal property, the duke answered: "I am thoroughly familiar with all the conditions to which you refer, as I am a reader of the MANUFACTURERS' RECORD." A maker of sugar machinery received an inquiry from the Hawaiian Islands which resulted in a considerable contract. As the buyer of the machinery made no reference to how he had heard of it, the advertiser mentioned it one day to one of our solicitors as a piece of news, and expressed his surprise at securing the order, since the machinery was at that time being advertised in but few papers, of which the MANUFACTURERS' RECORD was one, and he expressed the opinion that, of course, he did not suppose that it had any readers in the Hawaiian Islands. Looking up the matter, it was found that the particular concern which was the buyer of the machinery was a regular subscriber to this paper. Thus the inquiry was traced up. In that case, as in 99 out of 100, the buyer, however, had made no reference to the source of his information or as to where he had seen the advertisement.

These facts, mentioned merely incidentally to indicate something of how widely the MANUFACTURERS' RECORD is read throughout the world, are simply given to emphasize the point that whatever you may have to buy or to sell, whatever you may want, whether it is a hotel or guests for a hotel, whether it is a clerkship or a managerial position, or whether you want to find a man who can do just the job you want done, the proper place in which to make your wants known will be in this "Classified Opportunities." Full particulars as to the conditions and cost will be found at the top of the "Classified Opportunities" page.

Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 67, 68 and 69.

THE ATLANTA TRAGEDY.

Defenders of mob action born of a natural human impulse almost irresistible in certain situations can advance no sane argument to justify the action of the mob at Atlanta this week. Granting that persistency and frequency of loathsome crimes by negroes were calculated to rouse the primal passions of whites that would anticipate legal procedure, it cannot excuse for an instant the venting of those passions against negroes having no connection with the crimes, as though it were Springfield, Ohio, or New York. Even men who might be found hunting to death, as they would any other rabid animal, a brute that had assailed white civilization at its foundations, or who, after the criminal had fallen into the hands of officers of the law, might still be unable to refrain from violence, must stand aghast at the Atlanta exhibit of a logical consequence of any kind of overriding of the law by a mob.

In the pause thus given they have op-

portunity to study the clearly-defined connection between this particular mob action and its incentive, to discover the common origin of both, and from the lessons thus learned to formulate a policy that will prevent a repetition of the disgrace.

Certain newspapers of Atlanta were immediately responsible for the mob. For days, in a sensationalism that outdid itself, they nursed and cherished mob microbes by publishing glaring details of negro crime until the very atmosphere of the city reeked with them, and any sort of a mob against any object was likely to be born at any moment. The particular crime, the incentive to this sensationalism, was in logical sequence to the journalism that had disgraced Georgia in a political primary contest culminating in the nomination upon a platform demanding a wrong method of dealing with the political phase of the race problem in the State. The platform itself was an appeal to the mob mind. It was probably less called for by conditions in Georgia than by those in other States. For the relations between the races there had been for many years about as friendly as could be expected, and the menace from the negro in politics was far less than it is in some States where efforts have been made to raise a constitutional barrier against it.

Yet it is not surprising that such a disgraceful campaign was waged in Georgia or that coincidentally the special form of negro lust had expanded. For a recognition of the possibilities of a certain school of journalism as promotive of the quasi-mob mind, to which an appeal was to be made, accounted for the selection of Georgia in 1902 as the rostrum for the real beginning of a renewed "crusade for education" in the South engineered by an element representative of an earlier crusade of the kind that had done more to set the whites and blacks in antagonism than any hundred other influences. When Ogdenism was welcomed to Georgia with the words, "In so far as this conference disregards the color line, it calls for the united support and sympathy of all our people, and it will get it," the hour struck for a revival of race antagonism not only in that State, but in the South generally. The words were uttered in the enthusiasm of thoughtlessness and of ignorance of the fact that the element dominant in the Ogden Movement, no matter how far behind the circle of its misguided Southern sponsors or salaried agents it stood and however well intended its purpose, was identical in spirit and in some cases in personality with the element that had earlier sought to promote a policy—educational, political and philanthropic—that, if successful, could only have turned the South into a vast San Domingo and have destroyed white civilization in the United States. A main bone of that element's fanaticism is its inability or its unwillingness to see that the negro race, as a race, is a child, and that therefore making it a thing of undue prominence can only develop in individual negroes the cursed traits of froward and unrestrained children who have been ruined by false education. Assuming in its coalition with a few Southern whites to be striving in behalf of the whole South, the primary interest of the Ogden Movement was in the negro, and the emphasis of that fact in the unfolding of its campaign checked the advance of both the whites and the blacks of the South toward the point where both would have gained the right and permanent perspective as to their re-

lations, and tended to revive waning embarrassments. The loose talk by promoters, supporters or proteges of the Ogden Movement about the political, economic and social "wrongs" against the negroes in the past and in the present, about the possibility of negroes excelling whites, about the South "rising out of Saxonism into humanity," about "not even a black skin and a flat nose" justifying caste in this country, about the coming of the time when "marriage may come to be founded not on the color of the skin," and about "a large amount of good work being done by the best people North and South working in harmony for the political and intellectual development of the negroes in the Southern States," and the open practice by leading Ogdenites of social equality with negroes pointed straight to a certain end, and the MANUFACTURERS' RECORD, in spite of the knowledge that it would be misrepresented and misunderstood, warned the country against that certain end, of which the Atlanta tragedy is but one manifestation. It was certain that a great mass of whites of the South, not of the limited class productive of Ishmaels, of dupes for dollar dangles or of plain fools pining in "lonely isolation" for a chance to shine in the reflected light of bogus greatness, would instinctively resent in political action the attempt to accomplish by the backgate route the scheme that had been foiled at the front door, and that a mass of negroes, again encouraged to an exaggerated impression of their own importance and incapable of drawing fine-spun distinctions about equality of the races, would produce an increasing number of individuals seeking the direct, barbarian, brute route to a realization of the millennial dream of a certain class of negroes—forcible and unrestrained possession of white women. The Atlanta tragedy is a left-handed endorsement of Georgia's welcome four years ago to the Ogden Movement that "disregards the color line."

That answer should bring to their senses the few Southerners who, without axes to grind, may still be inclined to give the slightest countenance to this \$10,000,000 enterprise for the cultivation of disregard of the color line. At the same time the substantial elements in the South, who may, if they are thoroughly aroused, utterly suppress every mob movement, should make it impossible for the Atlanta tragedy to be repeated at any other point. In such a movement the great mass of the people of Atlanta, guided by the men of standing and of influence in that community, and sustained by a sane and conservative executive, the present Governor of Georgia, may be expected to lead and to handle their own grievous matter so firmly and so wisely as to forbid for all time the evolution of conditions that might cause a duplication of it.

EXPOSING A BAIT.

Our friend, the *Virginian-Pilot* of Norfolk, Va., alluding to some recent comments of the MANUFACTURERS' RECORD in criticism of the suggestion of a Southern man for the Democratic nomination for the Presidency, says:

The MANUFACTURERS' RECORD of Baltimore wakes up after the discussion has closed to advance reasons against the line of action which nobody contemplates.

About the only explanation of that erroneous statement is another statement by the *Virginian-Pilot* that only one paper within the field of its observation continues to expend superfluous ink on the idea of a Southern man for President. The *Virginian-Pilot*

should widen the field of its observation. It would then understand that the MANUFACTURERS' RECORD never sleeps at all where the vital interests of the South are concerned, and is prepared to combat any suggestion, wherever its origin, calculated to give the uninformed a wrong impression of the South. Such an impression may be given whenever Southern newspapers of standing nibble at the bait of a Southern Presidential nomination artfully cast by influences hostile to the best interests of the country.

WHAT RAILROAD REPORTS SHOW

At the beginning of autumn the outlook in the South is especially encouraging, and in no way is this more accurately reflected than in the earnings of the railroad companies. Increases all along the line is the story told by the reports now appearing, not only for the fiscal year completed at the end of June, but for the two or three months beginning the new fiscal year, which promises to be much greater in results than its predecessor. It is not surprising that the railroad companies should be enjoying continued prosperity, for the riches of the South are being developed with a vigor and persistence never before known; industries are thriving and expanding, and agriculture is at its best. The establishment of new industrial enterprises is proceeding with activity, and another year will see large additions to the number of plants of all kinds of manufactures. With the clearing away of forests by the expansion of the lumber business, new tracts are opened up for agriculture, which will also achieve gains as a result of this addition of territory to the amount of land available for the art and skill of the farmer.

To meet the demands crowding upon them as a result of all of this industrial activity the railroad companies, as shown by their reports, are devoting large sums for extensions and betterments, and this work, which is constantly in progress, brings about a wonderful distribution of money, and consequently increasing benefits for many localities. These improvements, many of them being in the way of double-tracking, will be completed none too soon, for the demand for facilities is urgent, lines in many places being now overcrowded with traffic, so that the movement of business on the railroads is more or less hindered by the lack of second track, and with the completion of many extensions now under way the rush of business upon the main lines must necessarily be greater than ever. Notwithstanding all this work, it is not to be expected that the railroads will at any early date be in position to promptly transport all the traffic that is offered them, for the development of the South is in advance of the supply of railroad facilities, and is likely to keep ahead of them for a long time. These remarks, of course, apply principally to the trunk lines. The new branch roads which are building into new regions will, of course, be able to transport as far as their lines go the new business which they seek, but the main-line roads are not fully prepared for all this work, yet their companies are doing all they can within their means to provide for it. Of the new railroad enterprises for the building of roads like the Tidewater Railway and the South & Western Railway it may be recognized that they will probably be able to handle their own traffic with rapidity for some time after they are completed. Such roads are being built

for a special purpose and for a particular class of business, and it is much easier to prepare adequate facilities upon such lines than upon other railroads which handle a great variety of business, yet even they may be expected to fall short of meeting the demands to come upon them as the years progress.

While this inadequacy of railroad facilities may from one point of view seem to be a subject for regret, it is nevertheless full of encouragement, as it indicates economic conditions which will result to the great advantage of the South and which will insure the doing of an immense amount of work within its borders during the next several years. The prospect is everywhere bright, and so much new country is to be opened and developed that the energies of all the people now in this section will be drawn upon to their utmost, and the energies of many others not now here will be called upon and required to do their share towards the task of progress which is set before us.

POLITICS OF PROGRESS.

Among the mass of newspapers of the country, many of which permit politics and scandals to dominate in their columns to the destruction of energies that might be exerted for the material advantage of communities and sections, some are conspicuous for their constructive policy, that is, for their well-maintained purpose to keep within the minimum disturbing political discussions and demoralizing sensationalism, and to devote the space in their columns thus gained to the promotion of material undertakings. Notable among these is the *Nashville American*. Its daily edition is a reflector of the steady progress of Nashville, Tenn., as an industrial, commercial and transportation center, and is, itself, thoroughly typical of the prosperity and progress to which it has so signally contributed. In its weekly edition it has been an exponent of the agricultural interests of one of the richest farming sections of the country. That section, though, is capable of far greater development. Recognizing that, the *American*, with characteristic enterprise, has strengthened its weekly, which will hereafter be called the *American Weekly*, and which will be conducted upon the principle that as the advance which has characterized the methods of late years of farmers of Tennessee, Kentucky, Alabama and other States has been brought about by the reading of papers devoted to their interests, the farmers must continue to read and think if this advance is to continue. It proposes to do all within its power to encourage greater attention to the proper culture of cotton and the proper handling of the staple for market, to improvements of cattle, hogs and poultry, to the raising of berries, vegetables and fruit, to labor-saving machinery, etc.

The MANUFACTURERS' RECORD takes pleasure in referring to this move because it outlines a policy that at least a dozen of the leading newspapers of the South should adopt to their own profit and to the vast advantage of the territories in which they circulate. Too much cannot be written of the opportunities of the South in agriculture as well as in industry. Too much encouragement cannot be given to Southerners to seize those opportunities. Nothing can be more conducive to that desirable end than the constant hammering upon facts by the newspapers, daily or weekly, and their frequent practical suggestions drawn from experiences in other parts of the country. We have advo-

cated such a policy again and again, and have frequently, in personal correspondence with editors, made at their request suggestions for local applications. The policy is, in brief, the substitution of the constructive politics of progress for the destructive politics of party.

SOUTHERN TECHNICAL TRAINING.

The ripeness of the time for greater efforts in the direction of providing technical training for the youth of the South is indicated by the reception given the publication in the *MANUFACTURERS' RECORD*, September 6, of an article by Prof. L. S. Randolph of the Virginia Polytechnic Institute at Blacksburg. Some representative papers of the South have republished the article in full. Others have discussed it editorially, making full extracts. Says the *Atlanta Constitution*:

It would be impossible for the conservative thought of the South to attach too much importance to the topic of technical education. It is not enough to know that we are destined by the logic of tangible assets and in the course of inevitable development to occupy eventually a paramount position in the industrial activities of the nation. It is of greater moment to lay such plans as will enable the native-born Southerner to be, in every respect, the beneficiary of the South's legitimate growth, calling in as little as possible of outside aid in gathering the many-sided harvest with which Providence has so lavishly endowed this territory.

The *MANUFACTURERS' RECORD* of Baltimore has been a persistent and an intelligent advocate of technical education as a primary duty of the South toward itself and its young men. In its last issue it publishes an article from L. S. Randolph, professor of mechanical engineering in the Virginia Polytechnic, in which is shown the inability of Southern institutions to provide, in anything like adequate numbers, men technically capacitated to direct our own industrial enterprises. * * * It is, of course, a temporary and partial solace to reflect that the South has made appreciable strides in the direction of technical education in the past 15 years. Lest such complaisance leads to a relaxation of our energies, it is well to remember Mr. Randolph's sententious warning:

"For every engineer educated in the South 15 are brought from outside."

In other words, we have precious little time to waste in gratulation and in the cherishing of designs which stop short of execution. While we are planning additions to our technological institutions and promising ourselves that in some mysterious manner Providence will kindly provide the means for their construction and maintenance, the industrial development of the South is proceeding with magical rapidity. Factories are springing up, power plants are multiplying, exports are growing, and young men from the North and West, graduated from the numerous and splendid institutions of those sections, are occupying the lucrative positions in the vanguard which belong, by inherent right, to native Southerners.

The Southern people are sufficiently busy with complicated problems. It is true, but the one outlined in the foregoing is of a nature that does not brook delay or the injection of parsimony.

The *News and Observer* of Raleigh, N. C., recognizes in Professor Randolph's paper an exceedingly practical argument and an urgent one that the technical schools of the South be given a far greater and much more substantial support in every way than they are now receiving, and says:

The South has but made a beginning in this important field of education, but the little that has been done has borne fruit an hundredfold. The local industrial schools, such as have been established by Mr. Baldwin at Charlotte and conducted by Mr. Beam at Spray, are doing a much-needed and valuable work in training youths who cannot come to the State A. and M. College. One of the greatest needs in North Carolina is to strengthen the mechanical and engineering and electrical departments of the A. and M. College and for public and private schools to give hand as well as head

instruction. We wish men to know as much as possible, for knowledge is truly power, but knowledge that cannot be used is like an electric car that has no motive power to make it run.

Impressed by the lack of facilities emphasized by Professor Randolph, the *News of Lynchburg* says:

The state of facts outlined in the above excerpts from Mr. Randolph's article represent a startling as well as a deplorable condition, and the South should awaken to their significance—to the great importance of paying more attention to the requirements of technical education in her institutions of learning. To say, as Professor Randolph says, that the technical schools of the South are not supplying one-half of the annual loss in this profession, and that "for every engineer educated in the South 15 are brought from the outside," is to say that the South has actually grown sleepy—dangerously so—as to her duty in furnishing larger opportunities for technical training. This is a day of industrial development; it is a period wherein the South is beginning the realization of the splendid dream of industrial conquest so often predicted as her due, and we should have no poverty in the ability of Southern men to take a strong hand—aye, the lead—in directing the great forces of her industrial reawakening. In every other profession the demand is supplied. There is no dearth of lawyers, of physicians, of ministers, of journalists. Indeed, in some of these professions their ranks are unduly crowded, and many a life that in other lines of endeavor would have carried wide sphere of gratifying usefulness has been literally choked and strangled into a nullity by attempting to find a place in a densely overcrowded pursuit. All the while the field of technical achievement has been offering steadily increasing and as steadily neglected opportunities. This is not so because there is dearth of inclination among Southern students to enter upon such work, but to both the want of additional facilities in the matter of technical education and the fact that the great need for the graduates of technical schools in Southern industrial development is not as sufficiently and generally known as it should be. The South ought to take heed in this matter, lest in her march toward industrial triumphs she will presently become altogether dependent upon brains and initiative of other than her own sons.

The following moral is drawn by the *Virginian-Pilot* of Norfolk, Va.:

Professor Randolph's article is timely and should bring forth fruit in serving to create throughout the South a sentiment in favor of more liberal and more substantial appropriations for technical schools, to the end that their number may be multiplied and their efficiency increased. In the Polytechnic Institute at Blacksburg Virginia has a technical school which is doing good work, but it is seriously handicapped by lack of proper equipment and of funds adequate for its proper maintenance. This school should be brought up to the highest standard of equipment and efficiency as soon as possible and provision made for the establishment and maintenance of other schools of a like character. It might also be well to introduce the elements of technical training into the public-school system of the State as soon as practicable.

But while we are improving our educational facilities in this direction we should not lose sight of the fact that agricultural training is fully as important as technical, if not more so. Agriculture is and must of necessity remain the real basis of Virginia's development and prosperity, and the more rapidly our agricultural methods are improved the more rapid will be the State's development and the greater its prosperity. The only way to insure improved agricultural methods is to instruct the youth of the State in the principles of scientific farming. To this end the agricultural department at the V. P. I. should be strengthened and the teaching of agriculture introduced in every country public school in the State. In no direction could Virginia spend money more wisely or with the certainty of better returns.

Gratifying as are these typical reflections of a lively interest of the public in this vital question of preparing the young men of the South to apply the trained mind to the full exploitation of its manufacturing and industrial resources—and the *MANUFACTURERS' RECORD* has noted during the past five or six years a steady enlargement in the volume and soundness of such expres-

sions—the desired end is not to be reached simply through advocacy of the technical training as a general proposition. To such advocacy must be added action upon practical lines, resulting in reinforcement by individuals and by the State of the facilities already offered the youth of the South, converting a weak institution into a strong one and still further strengthening three or four institutions which are already accomplishing notable results in spite of their handicaps. The plan of self-perpetuating scholarships founded by successful manufacturers or others in the South, so long advocated by the *MANUFACTURERS' RECORD*, seems to us to be a means most promising of effective results and best calculated to develop a strong public opinion that will induce liberal appropriations for the technical school by State legislatures or by municipalities.

The question is a most urgent one, and in it is involved the future of American industry. In the current issue of the *Engineering Magazine* Dr. Louis Bell publishes a significant criticism of prevailing manufacturing methods in America which he contends actually imperil our trade. He notes that to the primal intent of producing at the lowest possible cost the largest possible quantity of marketable goods are subordinated methods of production and character of the product; the fundamental principle being to reduce manufacturing to operations by automatic machinery, human labor being used only where it cannot be dispensed with. He finds that the resultants are specialization and standardization, with the tendency to a production of certain average types representing current average home demand, or sometimes merely forms of minimum cost. This tendency has been hastened under the development of an industrial organization, looking rather to immediate profit-taking than to the future, in which the home market may be invaded successfully from markets of cheaper production and imitative capacity abroad.

Americans, as Dr. Bell notes, are apparently indifferent to the requirements for a proper cultivation of foreign markets, which may not possibly be as much impressed with the advantages of specialization and standardization as we are. Moreover, coincident with our copying certain European products, the average quality of American labor is found to be running down with the passing of integral trades. This Dr. Bell regards as of greatest moment. He says:

Industrial conditions can probably never be restored to earlier forms. Labor-saving machinery, interchangeable parts and systematized production have their due place to fill in the world's economy. But they need not become, as they are becoming just at the present time, an excuse for stagnation. They should be the source of manifold lines of progress and be employed in working out new ideas instead of perpetuating old ones. And above all, they should not be allowed to check the development of the craftsman who is necessary to the perpetuation of the industry. The greatest industrial problem today is to maintain the supply of active, intelligent, resourceful American labor in spite of the American system.

The greatest industrial problem of the South is to obtain a supply of active, intelligent, resourceful labor to meet the demand of the present moment, to say nothing of the immediate future. A sure agency for the solving of this problem would be a public sentiment aroused to the necessity of liberal support of technical schools as leaders in industry.

TREASON MADE EASY.

In the event of war by the United States in Cuba opposition to simplified

spelling will, of course, readily become treason against the "Government."

EDWARD CRUMMER.

The sudden death of Mr. Edward Crummer, for the past 25 years business manager of *The Sun* of this city, with which he had been connected nearly 40 years, breaks another link between the Baltimore newspaper workers of today and those of the time when the founder of *The Sun* was in his prime, and makes a vacancy in the ranks that will be hard to fill. Trained in the best traditions of his paper, and ever active in maintaining them, Mr. Crummer in his alertness to its opportunities and in his fidelity to the interests of three generations of the Abell family with whom he served was a potent factor in the paper's progress and prosperity. Thousands of business and professional men and other citizens knew *The Sun* largely as it was typed in him, and their personal affection for him was added to their esteem for the paper and all that it stands for in the community. Baltimore journalism and Baltimoreans have suffered a great loss.

CONCRETE COUNTRY HOMES.

Concrete, such an increasing factor in building operations, is ordinarily thought of in connection with its use in the construction of apartment-houses, storage warehouses, power-houses, dams, causeways and other large undertakings which has a certain dramatic character in contrast with older-style methods. The many other uses to which concrete is put and its tremendous possibilities are often overlooked in contemplation of the rise, from laying the foundation to completion, of a 14-story flat within seven months or the building of a 1500-foot causeway practically of material right at hand with the exception of the cement. But architects and contractors are thoroughly alive to the possibilities and are developing them on every hand. Evidence of this as to one line, the building of country or suburban homes, is given in the facts manifest in one of the most artistic publications that has recently appeared.* It is an exemplification of the increasing popularity of concrete in the building of country residences because of its durability, its economy in the long run over wood construction, its comfort as assuring warmer walls in winter and cooler walls in summer, its making easy the adaptation of architecture to immediate surroundings, and its proof against storm, flood and fire. It contains more than 90 half-tone cuts, accompanied by floor plans, giving views of many styles of residences and a few other buildings at West End, N. J.; Elberon, N. J.; Palm Beach, Fla.; Tuxedo Park, N. Y.; Montclair, N. J.; Bristol, R. I.; Glen Cove, L. I.; Mt. Vernon, N. Y.; Baltimore, Md.; Wellesley, Mass.; Atlantic City, N. J.; Mobile, Ala.; Auriesville, N. Y.; Brookline, Mass.; Los Angeles, Cal.; Manchester, Mass.; Clifton, Mass.; Kennebunk Port, Maine; Chestnut Hill, Mass.; Cohasset, Mass.; New Haven, Conn.; Greenwich, Conn.; Fort Hamilton, N. Y.; Peterboro, N. H.; Grosse Pointe, Mich.; Milton, Mass.; Mechanicsburg, Ohio; Wheeling, W. Va.; Toledo, Ohio; Washington, D. C.; Kennelworth, Ill.; Fort Thomas, Ky.; Cincinnati, Ohio; Cambridge, Mass.; Glen Falls, N. Y.; Syracuse, N. Y.; East

*Concrete Country Residences. Published by the Atlas Portland Cement Co., 30 Broad street, New York. Price \$1.

Cleveland, Ohio; Lestershire, N. Y.; Roslyn, L. I.; Newport, R. I.; Detroit, Mich.; Oyster Bay, L. I.; Pasadena, Cal.; England and the West Indies. These views illustrate the many styles of architecture prevailing in the use of concrete in the construction of dwellings, and also emphasize the widespread inclination of home builders toward concrete, either reinforced, as a stucco on wire lath or on brick or in block construction, and their recognition of the ease given by it in making the plan of a house to conform to the general scheme of the landscape in a combination of stability, utility and beauty. These views are likely to set many a man to thinking seriously about building a country home and building it of concrete, and every man thinking of building a home will find in this book an almost endless variety of architectural plans.

POWER OF THE SOUTH.

With a view to making known the story of the development of its own water-powers for electrical transmission, the advantages of the towns along its transmission lines and general facts of Southern progress, the Southern Power Co. of Charlotte has issued a unique and attractive pamphlet which embraces the recent article in the *Review of Reviews*, "The South's Amazing Progress," by the editor of the *MANUFACTURERS' RECORD*; "Electricity: The Power Behind the South," an address delivered before the tenth annual convention of the American Cotton Manufacturers' Association by W. S. Lee, Jr., chief engineer of the Southern Power Co., and some statements of facts about a dozen towns through which the transmission lines of this company will pass. The Southern Power Co., as is well known to the readers of the *MANUFACTURERS' RECORD*, is developing an aggregate of about 100,000 horse-power, about 40,000 of which, in addition to that now in operation, will be ready to furnish to consumers in the vicinity of the lines now operating or those under construction or projected by January 1, 1907. This is the largest water-power operation in the South under one management, as the company has in view the development in the future of an aggregate of 200,000 horse-power, and is carrying on its vast enterprise with great energy backed by ample capital. Accompanying the pamphlet is a map of the territory in which the company is operating, showing all of its transmission lines. The pamphlet, which has been issued with a view to giving a wider knowledge about the South and about its individual plans, will prove of general interest to everybody interested in the South's material progress, and more especially in electrical development, its prospects and possibilities, and the desirability of electricity as compared with coal and oil. Copies of the pamphlet can be had by addressing the Southern Power Co., Charlotte, N. C.

SOUTHERN FARM MAGAZINE.

So much interest is taken in efforts of the South to attract settlers from England that an article published in the October issue of the *Southern Farm Magazine* dealing with the subject from the standpoint of an English writer will attract more than usual attention. It is but one of the many articles in the *Magazine* bearing upon the vital problem of immigration to the South. Other topics discussed are the uses of a cheap canning outfit to save great quantities of fruits and vegetables that are now practically wasted, various food supplies for soils, dairy and stock-raising practices, poultry, draining the lowlands, trucking, simplified spelling, phases of education and other subjects of interest to the general reader.

The *Southern Farm Magazine* is published monthly by the Manufacturers' Record Publishing Co., Baltimore, Md. Price \$1 a year.

Baltimore, and Its Part in the Sewerage Problem.*

By CALVIN W. HENDRICK, Chief Engineer, Baltimore Sewerage Commission.

In reply to your request to say a few words regarding Baltimore's great sewerage problem, I will impose on your time by going into generalities for a few moments.

The United States of America is an infant compared to the countries of the Old World. Nevertheless, she has accomplished more in 200 years than the Old World has in 1000. She has grown with leaps and bounds. What was the frontier of yesterday is the settled, up-to-date city of today. Every corner has been explored, mountain ranges have been pierced, rivers and cities have been tunneled, and in some of the larger cities the population working underground numbers hundreds of thousands of people. Vast sandy deserts have been watered; forests made to spring up out of barren plains; waterfalls have been harnessed to carry light and power hundreds of miles to isolated settlements. What were mere shops a few years ago have grown into great factories shipping to all parts of the world. A great navy has sprung up. Our metropolis has almost overtaken the great metropolis of the world, London. Our population has grown from 5,000,000 in 1800 to 84,000,000 in 1906, with all parts of the world sending new blood and energy in the shape of emigrants at the rate of 1,000,000 a year. A population growing at this rate is like a great snowball, enlarging as it rolls. With the energy, perseverance and determination of the American people, their flag floating in all parts of the world, it reminds one of an overgrown boy, growing so rapidly that all you can do is to keep him in clothes, style and material being a secondary consideration.

Where is all this going to stop? It seems that we have reached a point where it is necessary to stop, consider and ponder. We must go slower. We will have to be more deliberate in maturing our enterprises and in our treatment of all national subjects, such as our morals and divorce laws, municipal ownerships, franchises, political economy, the laying out of our cities, election laws, immigration restrictions, desecration of the Sabbath, inspection laws, not only of packing-houses, but of many other lines, especially milk and food products, the very source of life, and last, but most important, the water supply and the disposal of sewage.

Our country, with its cities and towns, has been like a small village, with its houses setting alone by themselves, surrounded by vacant land, ashes and other refuse being disposed of by simply throwing them on the adjacent lot, which being so far away caused no one to complain. The village grows until the lots next door are built on. Then come the dump heaps in the suburbs. As the city grows these are found to be too near to habitation, which means that instead of dumping it it must be disposed of by cremation. During this period the sewerage problem is going through the same trouble. The cities and villages heretofore have been so far apart that the only object in view was simply to get the sewage to a water-course and then let it take care of itself. These watercourses have gradually become built on until now it is a serious thing to turn sewage into any of them, as it means your neighbor below will complain, and justly so, and that you will have to find an outlet other than this stream or abate the nuisance in some way.

What is the result? A serious pondering and considering of the question of sewage disposal all over the country. The

result has been different schemes adapted to different sections of our country.

First, the septic tank in the shape of a well in which the solids settle to the bottom and the liquid rises and flows off. Then come irrigation and sewage farming, by spreading it over large areas of land. Then intermittent sand filtration, where the liquid passes down through the sand and comes out through the under-drains, the solids being removed. Then treatment like in London, where chemical precipitation is used, the sludge being carried far out to sea in specially-made vessels. And now we come to the latest and most up-to-date method ever attempted in disposing of sewage on a large scale, and to the city of Baltimore is due the honor and progress to which the engineering world is looking for results. It is a great undertaking. Only a few people realize its magnitude. When you think of preparing to take care of the sewage of a million or more people in a closely-built-up city like Baltimore, with its very heavy grades, pierced by two railroad tunnels, with two streams dividing the city which at times grow to raging torrents, with its low-lying land around the river front; then to be confronted with an act of the Legislature preventing the city from using the Chesapeake bay or its tributaries in the disposal of the sewage, we have a serious problem to unravel. When you come to study the scheme that has been adopted, and realize that this sewage will flow to a pumping station, there to be lifted through force mains to a height of 72 feet, an elevation that will allow the sewage to flow by gravity a distance of some five miles to the filter beds on Back river, of such huge proportions that they will be able to treat 300,000,000 gallons of sewage per day and bring it to such a state of purity that it will pass muster with many water systems in the country, this will give you a faint idea of what the great city of Baltimore is about to undertake.

Baltimore Town, laid out in 1729, is a city that bears the distinction of having started within her borders more modern developments of world-wide importance than any other city on earth. She gave the world the electric railway, the great Mergenthaler typesetting machine, the first tunnel operated by electricity. And the flag that floated over Fort McHenry, within her borders, on that memorable morning of September 12, 1814, waved out to the country the national anthem, "The Star-Spangled Banner;" a city that has the proud distinction of being the home of the Johns Hopkins Hospital and University, which are known over the entire world for their wonderful researches in science and metaphysics; a city that has the honor of having built the first monument to the Father of His Country; a city that responds as quickly, if not more so, than any other city when cries for help come from stricken places; a city whose oysters and terrapins are household words; a city whose hospitality is known the world over; a city that has had but one bank failure in 65 years; a city that has risen without the aid of a single outside person from the ruin and desolation of a fire that almost annihilated it, and that used but a small portion of an appropriation made voluntarily by the State of Maryland. Its citizens felt that they would not lean for support even upon their own State. She is a city that has built a courthouse of such magnificence that it would be difficult to find an equal, and with a balance left of the appropriation. She built a magnificent city hall, with a cash balance left of the appropria-

tion. And now, to crown it all, she steps to the front and with vigor and determination takes hold of this gigantic sewerage project. She will soon be a textbook for all other cities in this line, as no city has had such restrictions placed on it by the Legislature regarding the disposal of its sewage as the city of Baltimore. Gentlemen, you should take off your hats to a city like that.

You ask me to describe this sewerage undertaking. I can best begin by saying that we are endeavoring to follow the laws of nature as near as possible. For instance, the pump which forces the sewage up into the high-level outfall sewer is the sun drawing the salt water from the ocean into the clouds. The flow of the sewage through the great 12-foot outfall sewer is the cloud drifting through the air. Depositing the sewage by sprinkling it through the air over rock-contact beds is the cloud dropping the rain through the air to the earth. The passing of the sewage down through the rock beds is the rain trickling through the earth. The passing out into the settling basins is the river made by numerous springs, and the filtering through the additional sand beds is making it the clear, bubbling spring on the mountain side. You have the various processes through which the sewage passes, which is simply following the laws of God as near as man knows how.

The sewerage of the city of Baltimore was an undertaking of such magnitude that His Honor, Mayor Timanus, was authorized by the Legislature to appoint a Sewerage Commission with himself a member ex-officio. The members of the Commission are Dr. Ira Remsen, president of the Johns Hopkins University; Mr. Charles England, vice-president of the Chamber of Commerce; Mr. Morris Whitridge, Mr. William D. Platt, Mr. J. Edward Mohler, all prominent merchants and business men of the city, and as chairman Brigadier-General Peter Leary, Jr., U. S. A., retired.

The requirements of the Legislature regarding the treatment of the sewage were so exacting, making the solution a serious problem, that the Commission called in Messrs. Frederic P. Stearns of Boston, Rudolph Hering of New York and Samuel M. Gray of Providence, R. I., as a board to recommend the best method of treating the sewage. An interesting report was made on this subject.

In an undertaking of this kind all of its departments are of such magnitude that in some cities a commission is appointed to handle each of them separately. For instance, the pumping station is larger than any pumping station of the water-works; the storm-water drainage involves the building of storm-water sewers for the entire city; the outfall sewer alone represents an outlay of over \$1,000,000; the disposal plant an outlay of over \$3,000,000; the Jones' falls problem is an immense undertaking. The tearing up of the streets and alleys means the repaving of certain portions of every one of them, as there will be approximately 700 miles of sewers and drains to be constructed. This does not include the house connections to be carried to the property line, which will add 100 per cent. to the above length. Therefore, one of the most important steps in the beginning is the proper organization and systematizing of the many details in order to carry the work forward rapidly and satisfactorily. The organization was as follows: First, the storm-water division. Baltimore's storm-water drains were built without any definite plan or design, and are therefore of little use. The Commission is practically redesigning and reconstructing the entire system of storm-water drains independent of its sanitary sewerage system, which must be done so as not to interfere with the sanitary system

*From an address to the League of American Municipalities at Chicago.

which also covers the same streets. The high-level sanitary division, covering all that section of the city lying above a certain elevation. Then the low-level sanitary division, covering the flat section lying around the harbor. Then comes the disposal division, covering the great disposal works located some five miles distant on Back river. Then the establishment of the chemical and bacteriological laboratory for the purpose of making experiments and all kinds of tests. Then came the office engineer in charge of the pumping plant and details. Then the engineer of drafting, covering all draughting, records, filing, etc. Each division has its corps or field parties. Then came the rules and regulations covering these various departments. The first step in beginning the collection of data to make studies and plans was to make a survey and general map of the city on a scale of 1000 feet to the inch, this general map showing the water-courses, parks, harbor, rivers, railroads, etc., being the basis for all future investigations. Based on the general map, others were prepared; for instance, a map on the same scale showing the geological condition underlying the city, another showing the distribution of the population of the city divided into wards as it now exists (this is shown by colors and figures representing the density of population and the number of people per acre); another showing by colors and figures the population as it will be in 1930, at which time it is supposed the city will have a population of 1,000,000, for which number the proposed sewers have been designed; another showing the pavements of the city streets as they now stand; another map showing the various drainage areas; another showing the storm-water system of the entire city; another the sanitary sewers. One of the difficulties in connection with the last two studies is to build the two complete systems, one for sanitary sewers and one for storm-water drains, so that in the construction and extension of either there will be no interference one with the other.

These maps are what we call foundation or study maps. All of them being on the same scale, it enables one to study the city in all its phases. The next step was to make another set of maps on a large scale (100 feet to the inch), and on these are shown all of the existing substructures and every house and lot in the city, thus enabling the engineers to make their estimates and calculations, putting as much information as possible before the contractors to assist them in submitting their bids. Then came the mapping out or dividing up of the city into sections or areas to show what portions would flow into certain sewers, in order to calculate their sizes. Then came the laying out of the interceptors to find out what portion of the city could be drained by gravity to the distant filter beds on Back river, and what portion would have to be carried to the pumping station, there to be lifted up to the gravity sewer to flow to Back river. Then the making of wash borings, to locate the rock line and get samples of the different stratas.

The pumping station will require, to begin with, three 27,500,000-gallon plunger pumps, with additional pumps to be added later. The sewage will have to be lifted through iron force mains to a height of over 60 feet (the friction in the force mains making it equivalent to 72 feet), in order to put it into the outfall sewer, or, as I have just said, the cloud, thence to flow or float to the point at which it will be rained onto the filter beds.

On reaching Back river the sewage will first be deposited in huge septic tanks with a capacity of 25,000,000 gallons, where it will remain for six or eight hours, depositing therein much of its suspended matter as sludge, which gradually is reduced in

quantity and made inoffensive by bacterial action, and finally is discharged on adjoining lands. The effluent from the septic tanks, which is a partially clarified liquid, flows to the so-called "sprinkling filters." The filters are composed of beds of small broken stone about nine feet deep, and cover an area of 30 acres. The sewage is discharged upon these filters in the form of spray from a large number of nozzles placed about 15 feet apart at their surface. The sewage filters or trickles through the beds, a thin film of liquid surrounding each stone, and issues below freed from its putrescent matter.

This effluent then enters the settling basins, which have a capacity of 11,000,000 gallons, where it remains about three hours, and deposits the films of matter detached from the sprinkling filters.

The removal of the bacteria by the septic tanks, sprinkling filters and settling basins is about 95 per cent. of the number contained in the original sewage.

The final process of purification is secured by discharging intermittently the effluent from the settling basins upon artificial sand filters, by which substantially all the remaining bacteria and fine suspended matter are removed, so that the final effluent is clear and has obtained the highest practicable degree of purity. These artificial sand filters are to cover an area of 100 acres.

The necessity for purifying the sewage to such an unusually high degree is due to the great oyster industry of Baltimore. The Baltimore oyster is known the world over, and it was therefore considered highly important that not a breath of suspicion should arise in regard to the purity of the oyster. Therefore the filter beds for purifying the sewage were located on Back river, a broad stream about half a mile wide; and following a very circuitous route some 14 miles in length before emptying into the Chesapeake bay at a point some distance from the nearest of the smaller oyster beds. As the sewage effluent is to be 95 per cent. pure when it emerges from the third step in the process (the settling basins), which is a very high degree of purity, it occurred to the Sewerage Commission, in order not to permit sentiment to burden the city with an undue expenditure, to establish a testing station, a miniature counterpart of the great Back river disposal plant. This station will be designed and operated to allow the sewage to pass through the three processes of septic tank, sprinkling filters and settling basins, so that a practical demonstration can be laid before the Legislature. If it can be proven to them that sewage raised to 95 per cent. purity would cause no harm to the far-distant oyster beds, especially as this highly purified effluent would be discharged into such a large body of water and have to flow about 14 miles before emptying into the Chesapeake bay at a point far removed from the nearest oyster beds—if the Legislature will accept this degree of purity it will save the city the cost of building the intermittent sand filter beds at an expenditure of over \$1,000,000 first cost, with an annual maintenance expense of \$55,000, which capitalized would mean more than \$1,000,000—a saving of over \$2,000,000 for constructing these sand filter beds, which would give only an additional 2 or 3 per cent. of purity. The Commission decided to use one year's interest on the \$1,000,000 representing the first cost of these beds, with the hope of saving this large expense to the city.

The difficulties in this great sewerage project are numerous. Baltimore is very hilly in some sections and very flat in others. Both of these are objectionable features in sewerage construction. For instance, on the steep grades it will be necessary to keep the velocity of the sewage flow down, which will necessitate drop

manholes in order to flatten the grades. In the low-lying sections we will be below the tide level with flat grades. Jones' falls and Gwynn's falls bisect the city, necessitating siphons in some cases and greatly adding to the difficulties in the storm-water division, as they drain a very large area to the north and west and heavy storms cause them to become raging torrents, overflowing the low-lying sections of the city. There are also two railroad tunnels which pierce the city, one east to west and the other from north to south, and these have developed serious difficulties.

Baltimore being an old city, it has an accumulation below its streets of a perfect network of pipes of all kinds, some dating back possibly a hundred years. This adds to the many difficulties of construction. When you stop to realize that every house in the city, whether situated on a street or an alley, must be tapped by this new sewerage system you will then begin to see in a small way what it means.

Most sewerage systems grow up with the city, covering the period from the first settlement, but this system is to spring into existence, you might say, over night. No house can escape, the law making it obligatory upon the Board of Health to see that all houses are properly connected.

In building the sanitary sewers great care will have to be exercised in order to keep out the ground water, such as rain-water and tides, as every gallon that is allowed to enter the sanitary sewers will have to flow to the pumping station and be pumped and then pass through the filters, which, of course, adds greatly to the expense.

The city of Baltimore has appropriated \$10,000,000 toward building the sanitary sewers, and will probably add to this appropriation for the building of the storm-water sewers. In addition to these improvements, large sums have been appropriated for the extension of the park system, the paving of streets, extension of water area, the laying of electric conduits, building of great docks, and, with numerous private enterprises under way, an expenditure of possibly \$50,000,000 will be made in the next few years. The spending of such a large sum of money can have but one result, and that is, new life in every line of trade; new people coming in, bringing new blood; in fact, the growth of the city in all directions.

Situated as Baltimore is, with its great trunk lines of railroads extending over the entire South, lying on one of the most magnificent harbors, with lines of steamships running to all parts of the world, it should rightly be called the gateway to the South and West, and to no one in the city is more credit due for this progressive, up-to-date, businesslike progress than to His Honor, Mayor Timanus. It is, indeed, fortunate for the city that he is handling these matters in a big, broad way, always having in mind the city's interests first and foremost.

GROWTH AT WILMINGTON.

Advantages and Opportunities in the North Carolina City.

[Special Cor. Manufacturers' Record.]

Wilmington, N. C., September 24.

Wilmington of 10 years ago and Wilmington of today are two different propositions. The progress made in this city of late years has been remarkable, and at the same time the country surrounding Wilmington has been greatly developed, and still offers an inviting field for settlement and enterprise. No other region in the United States presents so many attractions in the manufacturing or farming line to the man of large or moderate means. This is true because of the wonderfully fine climate, the fertility of the soil, the abundance of pure water and the

peculiar purity and richness of the air. In cotton culture the State of North Carolina takes a prominent place among her sister States of the South. There are but few counties of the 96 in which it is not grown, and the area devoted to it is considerably over 1,000,000 acres.

Wilmington is also strong in its industrial wealth. The visitor will find its streets well paved, and electric cars run through the principal thoroughfares and into the attractive suburbs. One of the factors in the development of Wilmington is the firm of Messrs. Hugh MacRae & Co., who never lose an opportunity to do something which will be of advantage to the city. The present electric railway company, an enterprise of their creation, showed great forethought in constructing its road to the beautiful Wrightsville Beach, about eight miles distant from the city, and this fine ocean resort is the means of bringing many strangers during the summer months from all parts of the United States. It is a veritable Atlantic City in embryo. Wilmington is also a residence city, and is constantly drawing a desirable class of permanent residents because of its educational and social advantages and its special attractions for home-making.

For manufacturing, for trade, for health, for climate, for pleasant residence, for education, for society, for all good people, whether bent on work or rest, or money-making, or money-spending, Wilmington has great attractions. For manufacturing it has room for development, and the enterprising members of the Chamber of Commerce have made up their minds that in this particular the city shall develop more in the coming few years than in the past. They are offering inducements to manufacturers, either large or small, to locate here. One very necessary addition to this place would be a fine up-to-date hotel, which always helps a city's growth, and I am credibly informed that there is now a movement on foot to build a fine fire-proof hotel to cost \$200,000, and the greater part of this sum has been subscribed. More building has been done during the last year than for the past five years, which is an indication that the population is being constantly increased. The property values have also increased wonderfully. For instance, a vacant lot was sold a while ago for \$20,000. It was improved to the extent of putting up one building 30x120 feet, and this building and the lot on which it stood was sold for one-half of the entire purchase price, \$10,000, and at the present time on the balance of the lot there are three stores, a bank building, the general offices of the Southern Express Co., and space not already built up for another big building.

Business among the stores and banks has steadily increased. The Southern National Bank is one of the most popular and progressive banks in the city. Mr. C. N. Evans, the cashier, has always been known as a hustler, and since his connection with this enterprise there has been "something doing." The Hyman Supply Co. is a new concern which from its very inception has been enjoying a liberal patronage. The Southern Electric Co., Inc., electrical contractors, reports business as being exceedingly brisk. Its volume of business has increased to such an extent that it was forced to move to other and larger quarters, where it will be in a position to add to its already large business. The Wilmington Iron Works is also another substantial concern which has steadily grown until at the present time it does business in a much larger territory than heretofore. With those who desire further information about Wilmington the secretary of the Chamber of Commerce, Mr. James Kyle, will be glad to communicate.

I. S. FIELD.

INDUSTRIAL MEMPHIS.

Building Operations and Realty Activities—Various Market Lines.

[Special Cor. Manufacturers' Record.]
Memphis, Tenn., September 22.

Within a week the fall-trade period of Memphis will be properly on. Cotton is beginning to move at a good rate, and already there is more snap with the wholesale and retail trade here. From an industrial standpoint the Bluff City will go forward this fall with enough really large enterprises to gratify the most sanguine anticipations of those interested in the industrial growth of the place.

Col. Ike Peters, commissioner of the Industrial League here, has returned from an extended trip to New England. He conferred while there with a number of manufacturing concerns who had written him relative to moving South, and he has hopes that at least several of those he interviewed personally on his trip will come to Memphis within the next six months.

Several of the railroads are planning to run special excursions for their co-operative real estate agents of the North through the Memphis district this fall, and unquestionably this will result in good.

Memphis is the head of all-year river navigation on the Mississippi. It is also the pivotal point for the great Western movement that is gradually growing larger year by year. Memphis continues to grow in prestige as a timber market. Aside from already being the largest hardwood producing market in the world, there is a disposition on the part of the furniture and veneering interests to establish branches or supply depots here. Several from Michigan and Illinois have already done so, and others are reputed to be making investigations along this line. Of the sixty-odd manufacturing enterprises established in Memphis for the fiscal year ended with the summer, about 20, or one-third, were lumber firms or woodworking plants of some kind.

The records of the building commissioner for the same fiscal year ended with the summer indicate that within the corporate limits of Memphis, including about 16 miles of territory, 2147 buildings have been erected. The permits for these aggregated in value \$4,149,914. With the finishings added to those buildings the sum would be run up in round numbers to at least \$5,000,000. In the suburbs for the fiscal year at least 800 buildings were erected at an estimated cost of \$1,250,000, making a total for the year not less than \$6,500,000. From the number of laborers added at the factories and from directory estimates it would be indicated that the population of the city and immediate suburbs reached by the free-mail deliveries and the territory covered by the directory canvassers would be about 190,000.

The implement, vehicle and harness trade promises to receive material impetus the coming season. This past spring and summer several new concerns were launched, and enough is being done by the old ones to indicate that the expectations are for an added business in the next trade season. The crop conditions have something to do with this expectation, and the general development of the Memphis territory has more to do with it. C. W. Leffingwell, general agent of the International Harvester Co. here, is authority for the statement that his company is only temporarily located at its present place on South 2d street. A large building will be completed before next spring in the southern part of town near the Union Depot for the company's offices, display rooms, etc. The Memphis branch looks after a territory including parts of Kentucky and Mississippi as far down as Jackson and intermediate points.

Benedict, Warren & Davidson, whole-

salers in harness and special implement products, will erect before next spring a large building on Calhoun street within a short distance of the Union Depot that will be used for their warehouse, harness factory and office rooms. The building will be five stories and a basement, the first story to be of concrete and the balance of mill construction. This concern was established here only a short while ago and has developed a large business.

A change has been made in the collar, pad and back-band factory of Couch Bros. and J. J. Eagan in the southern part of town that will be of general interest in the South. Improvements will be made at this place in connection also with a change of ownership. J. J. Eagan has sold his interests. A fourth factory will be established at Dallas, Texas, the company now operating factories at Memphis, Atlanta and Waterloo, Iowa. The company has a capital of \$185,000 and manufactures the above-mentioned products extensively, also sweat bands, saddle blankets, etc. The owners now are J. M. Couch of Atlanta, A. G. Couch of Memphis, Garnett McMillan and L. J. Powers of Waterloo, Iowa.

The E. H. Crump Buggy & Harness Co. has lately succeeded here to the jobbing and retail business in vehicles and harness conducted by Crump & Rehkopf Company. Some stock enlargements are being made. H. J. Rehkopf, further down the street, has just completed the building of a new addition to his saddlery and buggy store.

The Gales & Hooper Company on South Front street has launched a plow and implement business that will have its first season next spring. The firm is now devoting its attention to preliminaries and is preparing for a large business. It will also job in wagons.

The numerous manufacturing firms on carriage and wagon work report that they have all they can do, but they indicate that materials are not only high, but some very slow of delivery, particularly iron and steel from the Birmingham district. The union labor has been restored at the several factories where it went out, and a compact satisfactory to all parties entered.

The Bluff City has taken several steps forward in the manufacture of tobaccos and cigars. The American Tobacco Co. is conducting a large sample-room on 3d street for its chewing-tobacco lines. The R. J. Reynolds Tobacco Co. of Winston-Salem, N. C., has a southwestern branch and display rooms in the Randolph Building here, with C. A. Kent in charge. The Nall-Williams Company of Louisville, Ky., has a place of like character in the Tennessee Trust Building, and the Christian Peper Tobacco Co. of St. Louis has a depot in town. The firm of Sternberg Bros. recently took over the J. Bugg Tobacco Works at Pulaski, Tenn., manufacturing smoking tobaccos, and the business is being operated here. The larger cigar factories in town, Wm. Amend, R. L. Moseley, A. Pontius and others, report business very active. One of the factories named reports a great scarcity of cigar-makers as compared with the demand for same, and keeps an advertisement standing for 25 cigarmakers.

The cottonseed-products trade of late has been moving forward along speculative lines. The new uses of the product for foodstuffs made a wonderful demand last season, and the gins are beginning to work now and the large cottonseed-products interests here are on the tiptoe of expectancy. A heavy volume of correspondence is reported already in both the domestic and export trade. New rules promulgated in the trade have changed the grade of prime meal. Now there are three grades—prime, extra prime and choice. The grade of choice is about the same as old prime. The other grades permit of all kinds of

adulteration. The mills start up the first of October. The Russian war, interfering with the manufacture abroad and the use of American meal in Europe, gave a tremendous impetus last year to the export trade from the South, and the outlook is for a good export trade to be continuous.

The two furniture factories here report a strong market on furniture. Owing to the increased price of material some advances have been made necessary. The demand is good. The factories here are importing matting on a large scale and selling it along with furniture to their trade. A Furniture Retail Protective Association has been organized here by the Memphis retailers. There are 32 members. A Memphis wholesale furniture house captured a contract the past few days for furnishing Hotel Gayosa's addition here and the Halliday Hotel, Cairo, Ill., over competitors from Chicago, St. Louis and Philadelphia. The contract runs into the thousands.

FACTORIES AT COLUMBIA.

Variety of Industries in South Carolina's Capital City.

[Special Cor. Manufacturers' Record.]
Columbia, S. C., September 22.

Columbia has extensive manufacturing interests. Its location, railroad facilities and water transportation make it a most desirable place for manufacturers of all kinds. There is now invested here over \$7,000,000 in manufacturing enterprises, which pay out annually over \$2,250,000 in wages. Six cotton mills with a total capital invested of \$4,035,000, having 232,500 spindles, 5896 looms, 4400 employees and 10,700 village population consume nearly 70,000 bales of cotton annually and manufacture each year about 80,000,000 yards of cloth. Among these mills is the Olympia, the largest cotton mill under one roof in the world. This mill has 10 acres of floor space and operates 104,000 spindles and 2400 looms. There are two hosiery mills, a modern glass factory employing 120 men, a large distillery, six lumber-manufacturing plants, three fertilizer factories, three cotton-oil mills, four large foundries and machine shops, one mattress factory, one cotton compress, three large bonded warehouses, four extensive rock quarries, three large brick-manufacturing concerns, two modern ice-manufacturing plants, one press-cloth factory, one soap factory, one carriage factory, a factory for the manufacture of antiseptic gauzes and chemicals, a modern gas works, a paint factory, shirt factory and one large electric-power station (water) developing at full capacity 12,000 horse-power, the current being sold and transmitted to any point.

This power is developed by the owners of the property, the Columbia Water-Power Co., a corporation of New England capitalists. The great electric powerhouse with its huge turbines is one of the sights of Columbia. This electric power can be delivered anywhere in or near the city. This makes Columbia a very desirable place for manufacturers to locate.

Columbia is also an educational center, having several colleges and schools, and is also the home of the University of South Carolina. The public schools form a model system of which the citizens can be proud of. The city has half a dozen hotels, churches of all denominations, six banks, a fine electric railway and all the accoutrements of modern city life.

Columbia is located on the main trunk line of the Southern Railway, Seaboard Air Line and Atlantic Coast Line railroads, which place it in direct and quick communication with the seaports of Charleston, Savannah, Wilmington, Norfolk and Georgetown. Ten lines of railroads radiate from Columbia to the north, east, south and west, insuring a speedy

delivery of freight to any town in the State; at the same time there are 75 passenger trains in and out of Columbia daily. The New York, Georgetown & Columbia Steamship Co. operates lines of boats between Columbia and Georgetown, which connect at Georgetown with the Clyde Line for New York, Philadelphia and Boston, and with the Baltimore & Georgetown Line for Baltimore, which also ensures good water rates on all classes of freight. This brief sketch of this city of South Carolina will serve at least to show the present dominating spirit and the controlling purpose which is everywhere apparent to develop manufactures. The Chamber of Commerce has recently taken on new life, and its aim is to locate large and small diversified manufacturing industries. Mr. E. B. Clark, the untiring secretary, is always glad to furnish any information about Columbia and give all facts concerning its attitude toward new industries. He hopes before a great while to add to the already large number of manufactures, and from present indications his hopes will be realized.

I. S. FIELD.

THE GREATER CHARLOTTE CLUB.

The Plans for Expansion of the Carolina City.

[Special Cor. Manufacturers' Record.]
Charlotte, N. C., September 22.

Charlotte, N. C., a city of 40,000 souls, is located midway between Washington and Atlanta. This, the Queen City of the two Carolinas, and destined to be a Queen City of the South, has not derived its development from any precipitate boom, but its standing is the result of a conservative and steady growth during the past decade. The geographical position of this city gives it wonderful advantages. Situated as it is in the center of the Piedmont section of the Carolinas, it is naturally a pivot for the commercial activities of these two States. Within a radius of 100 miles of Charlotte there are 335 cotton mills, representing an investment of about \$130,000,000 and operating 4,000,000 spindles. There are four engineering and contracting firms in Charlotte who build cotton mills and cotton-oil mills and fit them out ready for the manufacture of cloth, yarns and the various products of cotton and cottonseed. Referring to the cotton-oil industry, it would be of interest to note the rapid growth and development of this line of manufacturing during the past 15 or 20 years. The engineering firms referred to above will take a contract to build a cotton mill or cotton-oil mill anywhere in the world. One of these firms has built more than 100 cotton mills and more than 200 oil mills. A considerable portion of this cotton-oil machinery has been exported. A contract to build and equip an oil mill in Brazil was recently executed by the D. A. Tompkins Company of Charlotte.

Charlotte has of her own 20 cotton mills manufacturing different grades of yarns and cloth for the markets of America and also for foreign countries. Charlotte's climatic conditions contribute considerably to the cotton-manufacturing industry in this section of the country, there being only two months in the year when the weather is likely to be real cold, and the summers are not oppressive. This city is just in the edge of the thermal belt that crosses the extreme western portion of the State of North Carolina. These conditions likewise are propitious to cotton-oil manufacturing. Charlotte has three oil mills, whose daily capacity is 350 tons of seed. The output of these mills is valuable through numerous channels of utilization. Some of this product is used for the fertilization of the soil for the production of another crop of cotton, and other crops as well are grown by this same method of

fertilization in the vicinity of Charlotte. These mills furnish a supplementary food product. Large quantities of oil from these and other mills of the South go annually to the great Western packing houses. Holland draws largely on the oil mills of the South for her supply of butter. According to Mr. D. A. Tompkins, the dean of the school of cotton manufacturing in this section, 300,000 barrels of this oil goes to Holland annually to be used in making butter, while 30,000 barrels go to the coast of Maine for packing sardines and 500,000 barrels are sent to Marseilles and Trieste to be refined and sold as olive oil. These statistics are taken from an interview with Mr. Tompkins some time ago, and represent the entire South, and are quoted here to show the part that Charlotte plays in the building of these mills and making the output possible.

There are in Charlotte seven machine shops engaged in building cotton gins, presses, engines and boilers, mining and cotton-mill machinery, and, as stated in the preceding paragraph, cotton-oil machinery. In addition to these, agricultural implements are manufactured. Thus the city manufactures and produces all machinery and supplies necessary to the production of cotton and the manufacturing of it and its various by-products, from the plow that prepares the soil for the seed, the gin that prepares the seed for the soil, the planter that plants the seed and the various other machines necessary to the preparation of the raw cotton for the spinning and weaving mills. When the cotton has reached the stage where it is cloth the five trouser factories of the city can take it and manufacture it into overalls, shirts and such other articles as are made from this class of cotton cloth.

There are numerous other manufactories in Charlotte that contribute to its strength as an industrial center of the two Carolinas. These manufactories have recently been very materially helped by the advent of cheap power. Within a few miles of Charlotte there are water-powers capable of generating and transmitting to her various manufactories 200,000 electrical horsepower at a price much lower than it cost to drive this machinery by individual steam plants. Verily, the Carolinas are destined to become the manufacturing center of the world.

The Southern Railway Co. has been engaged in laying double tracks on its main line from Washington to Atlanta. The work is now reaching the vicinity of Charlotte, and within a few years will be completed. This improvement will greatly facilitate the shipping in and out of the city. The Seaboard Air Line has outgrown its warehouses, and is now building enormous freight depots for the amelioration of freight conditions caused by the incapacity of its conveniences. There are 30 passenger, express and mail trains going in and out of Charlotte daily. One can leave Charlotte in the morning or mid-day and reach almost any town within 100 miles and spend a day or half day and return to the city in the evening. The Southern Railway has just completed a handsome and commodious passenger station. There is being completed a hotel that will stand in the front rank of Southern hotels. This hostelry will be under the management of the well-known firm of Harvey & Wood of Boston.

Another of Charlotte's resources should not be overlooked—one that is necessary to the vigorous commercial community, and that is the banking institutions. The four national and two State banks have combined resources of more than \$8,000,000. An increase in Charlotte's banking capacity, along with other valuable and lasting improvements, have come during the past few years, while many are now in process of development.

In view of all of the above conditions, and in recognition of the possibilities of the city and this section, a number of business and professional men have organized the Greater Charlotte Club, which organization has for its purpose the development of the dormant resources and the perpetuation and multiplication of the present propitious conditions that make for the building of a great city. Though this club was organized in the last days of the year of 1905, its influence and efforts are being recognized as a potent factor in the making of "Greater Charlotte." This organization has already established its standing in the community as a great industrial organization, and has recently added much to its efficiency by the employment of a permanent secretary. In the employment of Mr. W. T. Corwith as secretary of this club it has indeed found the right one for this line of work and a man who will be a valuable asset in the business life of the city. Mr. Corwith has just returned from a tour through the West, where he studied conditions there, and also the methods employed by kindred organizations. A campaign for the raising of funds for advertising the city will shortly be launched with bright prospects. This club entertained in March of this year at a banquet the Governors of both the Carolinas and Alton Brooks Parker, late nominee of the Democratic party for the Presidency. This banquet eclipsed any occasion of this sort ever held in either of the two States. This club has no intention of entering politics, and has but one great purpose, and that is to "make Charlotte grow." Believing that the next few years will bring even greater developments and improvements than we have seen in the past, we invite the world to "watch Charlotte grow." J. F. FLOWERS.

THE BIRMINGHAM DISTRICT.

Quotation on Next Year's Iron About to Be Advanced.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., September 24.

What little spot iron there is to be had in the Birmingham district consists of lower grades of the product, and it is bringing a high price. Some of the furnace companies are now going slow about receiving orders for iron to be delivered during the first quarter of next year. The quotation on next year's iron is about to be advanced some. While one or two of the larger producers in the district have been selling this iron at \$15 per ton, no small amount of the product which will be delivered during the first half of the coming year is booked at \$15.50, and in some instances even more than that. There are no indications as to the market not holding up for some time to come. During the past two weeks consumers have had agents in this field trying to get small lots of iron, delivery during the next three months, at almost any price, Nos. 1 and 2 foundry and No. 2 soft desired. The make in this section shows very little improvement. One furnace at Woodward is reported in blast again, and the furnace at Holt, in Tuscaloosa county, goes out. The Trussville furnace is not yet making iron. The production at Thomas (Republic Company) is not as extensive as it might be. There is yet a scarcity of raw material, ore, coke and limestone being rather short. Preparations are being made, however, to increase the supplies. The new ore mines of the Alabama Consolidated Coal & Iron Co. near Gate City, called Hammond, in honor of the popular assistant to the president of the company, is fast getting down to hard work, and will shortly be making a record in ore output. The Tennessee Company is also making preparations to increase its ore output. New limestone quarries are also being opened up in this State, and it is believed that before winter sets in good the

supply will be equal to the demand. The furnace companies which are not using their raw material now are finding no trouble whatsoever in disposing of same at a good profit.

Announcement is made that when the Trussville furnace (formerly Lacey-Buck Iron Co.) goes into operation again, which will be in the near future, basic iron will be produced. The Southern Steel Co., which absorbed this company, will use the iron at its steel plant at Gadsden. Tynes are being manufactured now to produce the specific iron mentioned, and other changes are being made.

The report of the Alabama Car Service Association for the month of August as to the number of cars handled by the railroads belonging to the association shows a decrease as compared to the number of cars handled during the same month a year previous. The difference is accounted for by the fact that the cars are of larger capacity as a general proposition this year than last. The home consumption, too, is greater than before, and the record, therefore, is lost to a considerable extent. General conditions, however, show an improvement as compared with the conditions of a year ago in this district.

The various steel plants are working steadily and the output is quite satisfactory, so it is reported. Several rumors still prevail as to a falling off in the output, but if there is a difference it is not extensive.

Many in this section are of the opinion that the proposed increase in the capital stock of the Tennessee Coal, Iron & Railroad Co. from the present figure, \$30,000,000, to \$50,000,000, will mean much for the Birmingham district. While no small amount of the additional capital, it is understood, is to be used in completing the merger of the Republic Iron & Steel Co. and the Tennessee Coal, Iron & Railroad Co., it is expected that no small appropriation will be employed in further developments about the properties of the big corporation. Already plans are in hand for additions and new plants which will call for expenditures of several million dollars, but there is room for still further development, and with the additional capital it is believed this will be considered after the special meeting which will be held in Tracy City, Tenn., the early part of October.

The railroad car shortage is interfering some with the coal and coke output. The production is heavy at present, and there is a demand for every ton that can be mined.

The Crystal Coal Co. has been incorporated by William E. Leake, Culpepper Exum, John B. Carrington, H. Ellis McCormack, Peyton Norwell and John S. Kaul; capital stock \$60,000. The company will develop a tract of coal lands in Walker county and in the western part of Jefferson county.

The labor question is still very serious in this section, despite the fact that many foreigners are being brought in. Mr. H. Hammond, assistant to President T. G. Bush of the Alabama Consolidated Coal & Iron Co., when interviewed on the subject said: "There is no describing the shortage of labor in this district. At the mines, furnaces and mills there is need for much labor. There is not as much labor being brought in as one would imagine. The needs are far from being supplied as quickly as is desired."

Machine shops and foundries report their trade steady. It is learned on good authority that because of the eight-hour clause a federal contract of some size had to be declined by one of the larger machine shops in this district. It was reported that to limit the work to eight hours a day might have interfered with the casting of

the work, and the concern did not care to take the risk.

The Iron and Metal Trades.

The *Iron Age* in its weekly review says: "On the whole, the pig-iron markets throughout the country have been quiet, with occasional spells of activity cropping out locally. The latter feature grows out of the appearance of inquiries both for prompt and forward delivery. Generally speaking, quotations are about \$1 higher for the former. A good deal is being made of the new furnace capacity which will become available during the next six months, but experience has only too often taught that expectations as to the date of blowing in of new furnaces are rarely realized."

"Aside from some imports of low phosphorus pig, of which another cargo of 5000 tons is now on the ocean, there is nothing doing as yet in foreign iron for consumption on this side. It would not be surprising, however, if some business of this character in foundry iron were arranged."

"From the West come reports of increasing scarcity of steel. There are in the Chicago market now two inquiries of 10,000 tons each of forging and axle billets, while the Union Pacific Railroad is in the market for 14,500 tons of billets to be rolled at the Laramie mill in Wyoming at the rate of 1500 to 2000 tons a month. Steel works in the Chicago district are unable to handle this business."

"The railroads continue to appear as important buyers for next year. The Pennsylvania Company has placed orders for 15,000 steel cars and the Vanderbilt lines for 21,000 cars. There are in the market, too, inquiries for steel rails aggregating between 150,000 and 200,000 tons. It is noted also that there is an inquiry for 22,000 tons of rails for Cuba. The largest sale of rails during the week has been a lot of 38,000 tons for the Erie. The order for 5000 tons for Panama has been awarded."

"A good run of moderate-sized contracts for structural material has come to the mills. Included in them is 5000 tons for the two new plants in the Chicago and Pittsburg districts of the Universal Portland Cement Co., a new subsidiary company of the United States Steel Corporation, which is handling the rapidly developing cement production of the corporation."

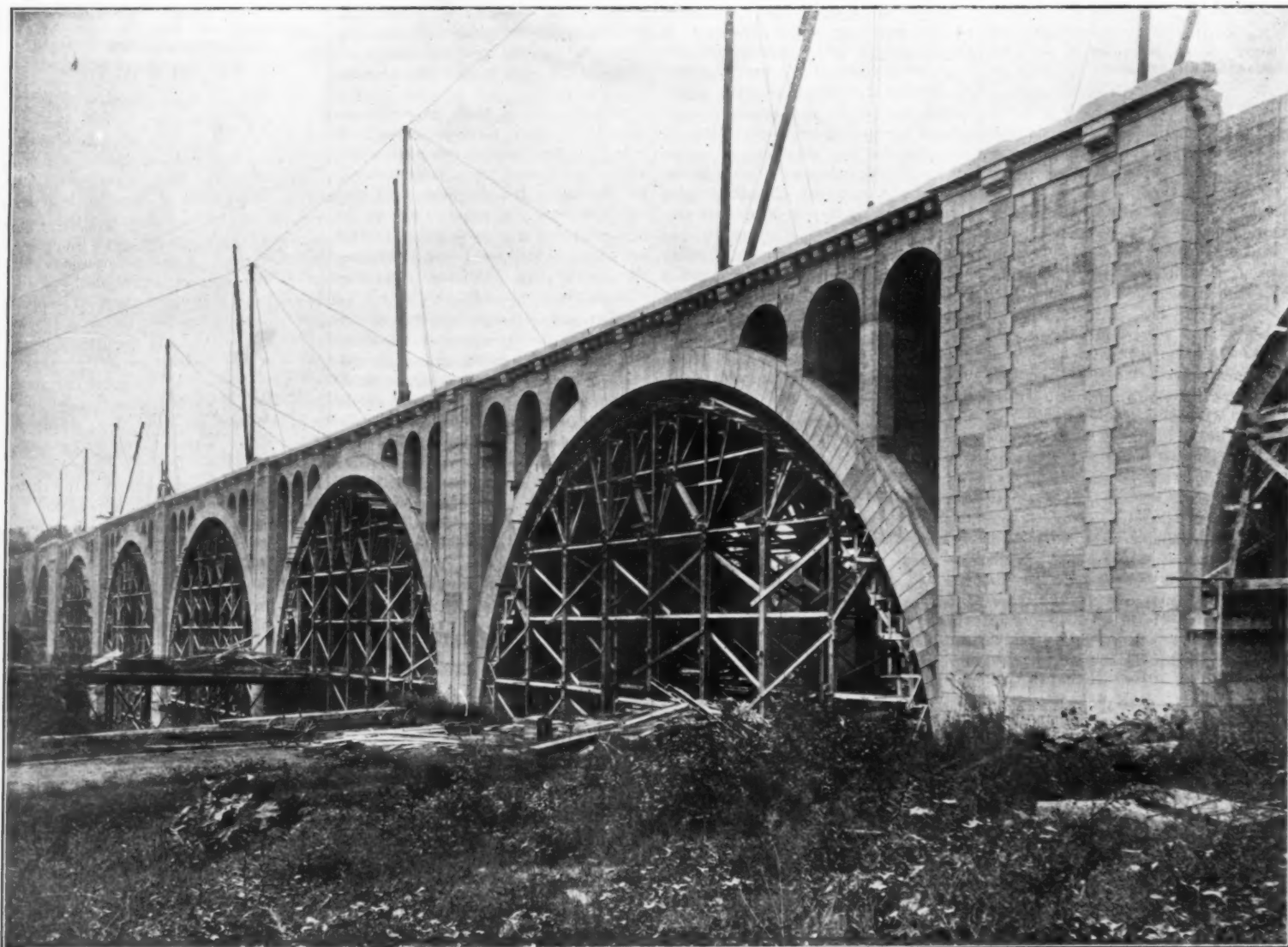
"In the lighter lines it is the old story of enormous pressure to meet the demands. In the wire industry there has been an advance of \$1 per net ton all along the line. In the sheet trade a premium of \$1 per ton on the heavier gauges is growing more general, while in the tinplate trade a somewhat significant incident is that there have been small sales of foreign tinplates for domestic consumption for very prompt delivery, it being impossible to secure domestic tinplate."

Virginia Minerals.

In order to assure an adequate exhibit of the great mineral resources of Virginia at the Jamestown Exposition, Governor Swanson has called a meeting at Bristol October 2 of all persons interested in the coal and other mineral development of Southwest Virginia. Properly seconded, that call should result in a splendid advertisement of Virginia's resources even before the exposition is open.

Coal Development in West Virginia.

A dispatch from Bluefield, W. Va., states that the Dixon Pocahontas Fuel Co., which recently began the development of a 3000-acre tract of coal land near Welch, has sunk a shaft 180 feet to No. 4 seam, which is five and one-half feet thick, showing a good quality of coal. Mining operations are in charge of Superintendent J. P. Davis.



A STRIKING EXAMPLE OF CONCRETE BRIDGE CONSTRUCTION.

One of the most interesting pieces of concrete engineering work in the country is the Connecticut-avenue Bridge, now rapidly nearing completion in Washington, D. C., which was described at length in the *MANUFACTURERS' RECORD* of September 20. This bridge has a total length of 1341 feet, exclusive of approaches, and a width of 52 feet between faces of arch rings. It contains two "U" abutments and seven full center arches, the end arches having a span of 82 feet each and the five intermediate arches having spans of 150 feet each. Concrete was used exclusively in its construction, the exterior being faced with hammer-faced concrete blocks made by the contractors on the job. About 100,000 cubic yards of concrete was used. The cost of this structure will be nearly \$1,000,000. The District Construction Co. of Washington, D. C., officers of which are W. H. Allen, P. J. Cogan, T. J. Forschner and P. H. Cogan, were the contractors.

FOR MUNICIPAL IMPROVEMENTS.

Papers to Be Presented at the Birmingham Convention.

At the thirteenth annual convention of the American Society of Municipal Improvements, to be held at Birmingham, Ala., October 9-12, papers will be presented as follows: "The Municipal Control of Planting and Care of Shade Trees," by William Salatoff, secretary and superintendent of Shade Tree Commission, East Orange, N. J.; "The Improvement of Elizabeth River by Illuminating Sewerage Pollution," by W. H. Luster, Jr., City Engineer, Elizabeth, N. J.; "Sewerage," by Alexander Potter, consulting engineer, New York city; "Yellow Fever and Sanitation," by J. M. Hazlehurst, consulting engineer, Mobile, Ala.; "The Improvement of the Sanitary Condition of the Gowanus Canal, Brooklyn," by Henry Asserson, chief engineer Bureau of Sewers, Brooklyn, N. Y.; "Electric Street Lights," by E. A. Fisher, City Engineer, Rochester, N. Y.; "Cost of Clearing and Grubbing Reservoir Sites," by Julian Griggs, C. E., Columbus, Ohio; "The Recent Advances in the Purification and Softening of Public Water Supplies," by Geo. W. Fuller, consulting engineer, New York city; "The New Orleans Water-Works," by Geo. G. Earle, general superintendent of Sewerage and Water Board, New Orleans, La.; "The Water-Works of Archangel, Russia," by Ulrich E. Tanbenheim, manager of water-works, Archangel,

Russia; "Street Cleaning and Disposal of Sweepings," by T. C. Hatton, consulting engineer, Wilmington, Del.; "A Proposed System of Final Waste Disposition for the City of New York," by Howard Bayles, metropolitan engineer, New York city, N. Y.; "Municipal Asphalt Plant at Hamilton, Ontario," by E. G. Borrow, City Engineer, Hamilton, Ontario; "Earth Settlement in City Streets," by Harris Andrews, consulting engineer, Albany, N. Y.; "Chert Roads," by Prof. Edgar B. Cay, University of Alabama, Tuscaloosa, Ala.; "Paving and Paving Materials of the Southwest," by Walter F. Reichardt, Little Rock, Ark., and "Tests of Other Woods Than Yellow Pine for Block Pavements," by F. A. Kummer, civil engineer, New York city, N. Y.

A number of other papers have been promised, but as yet the titles have not been presented. Reports of the various standing committees will be made as follows: Street paving, by James Owen, Newark, N. J.; electric street lighting, by Henry S. Baker, Watertown, N. Y.; sewerage and sanitation, by J. N. Hazlehurst, Mobile, Ala.; water-works and water supplies, by Julian Griggs, Columbus, Ohio; taxation and assessment, by W. S. Crenhall, New York city; city government and legislation, by Thomas Neville, Rochester, N. Y.; disposing of garbage and street cleaning, by J. C. Hatton, Wilmington, Del.; municipal franchises, by L. H. Weisleder, Cincinnati, Ohio; review by A. Pres-

cott Tolwell, Easton, Pa.; municipal data and statistics, by H. S. Graser, Chicago, Ill.; park development and maintenance, by G. A. Parker, Hartford, Conn.; fire protection, by Alcide Chausse, Montreal, Canada, and exhibits for the meeting, by R. K. Davis, Detroit, Mich.

An attractive program is being prepared for the entertainment of the members of the association and its guests, embracing visits to the various industries in the Birmingham district and inspection of water-works, reservoirs, filter plants, county sewers and septic plants.

Reclaiming Louisiana Swamps.

Mr. Henri L. Gueydan of Gueydan, La., writes as follows in the *New Orleans Times-Democrat*:

"The interview of Albert Phenis of the *MANUFACTURERS' RECORD* about the reclamation of Louisiana's marsh lands, contained in your yesterday's daily, is a splendid article that should be read carefully by all your readers. In France whenever a member of the Chamber of Deputies delivers a forcible speech, one that is patriotic and for the great good of the fatherland, his speech is published in every commune of France. I would like to see Mr. Phenis' sound advice contained in the article above referred to reproduced in every newspaper in South Louisiana.

"Mr. Phenis is right. Our efforts should be bent towards reclaiming our swamps and marshes and making healthy, habitable

and extremely productive a vast territory which is now a blot on the map of the State. It is high time that Louisianians should help themselves, instead of crying for others to help them. If our population had a little more faith in themselves and their country, this, the richest part of the United States, would soon be made to blossom ready to receive its future population of say 10,000,000 souls. Let every coastal parish own several dredge boats and dig the intercoastal canal at their own expense, and then loan said dredge boats to drainage districts and to landowners. The parishes would be repaid tenfold in increased assessments and greater revenues. Every time these dredge boats scrape up a shovelful of earth they accomplish four very useful purposes: They build roads out of the earth excavated, while the canals dug serve the purpose of drainage, irrigation and transportation. Louisiana should exempt dredge boats from taxation for the next 10 to 20 years. Two hundred and fifty dredge boats and 500 road-graders at work continually in coastal Louisiana would increase the population of the State 1,000,000 every year until it would be as thickly settled as Holland. Here is a fit subject for the progressive unions of Louisiana."

The Mayors of Jellico, Tenn.-Ky., have appealed for means of relief of many residents of the town injured in person or property by the dynamite explosion last Friday.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

MISSOURI, KANSAS & TEXAS.

Glorifying Display of Earnings in Annual Report—Construction Now Being Done.

The report of the Missouri, Kansas & Texas Railway Co. for the fiscal year ended June 30, 1906, shows gross earnings \$21,159,145, increase \$1,118,050 as compared with last year, or 5.5 per cent.; net earnings were \$5,744,600, increase \$641,225, or 12.5 per cent., the greater ratio of gain in net earnings being due to the fact that expenses did not increase in the same degree that the traffic grew. The total income of the company was \$6,153,635, increase \$625,080; surplus \$1,653,087, increase \$385,897; gross earnings per mile \$6953, increase \$268; net earnings per mile \$1887, increase \$210; ratio of expenses to earnings 73 per cent., as compared with 75 per cent. last year. The average mileage in operation was 3043 miles, the same as last year, no additional mileage being built or acquired during the fiscal year. However, the company on July 1 of this year began the joint operation of about 30 miles of track of the International & Great Northern Railroad between Austin and San Marcos, Texas, which gives the Missouri, Kansas & Texas an outlet southwest from Austin and saves considerable distance and time between San Antonio and Northern points.

Particular reference is made to the statistics of the report, showing an increased efficiency of operation, which, coupled with the decreased ratio of operating expenses to earnings, indicates that the company is beginning to reap the benefit of the policy of improvement consistently followed in the past, and while much remains to be done to secure operation at the minimum of cost, the physical condition of the lines is said to have been never so good as it is now.

The company carried 5,833,738 tons of freight, increase 356,900; the ton mileage was 1,400,873,438, increase 127,727,947. The number of passengers carried was 4,005,900, increase 401,999; the passenger mileage was 230,891,064, decrease 7,709,657. The revenue tons per train mile were 217.9, increase 13. The gross earnings per mile were \$6953, increase \$367; net earnings per mile \$1887, increase \$210. The revenue per ton was \$2.56 and the revenue per passenger \$1.29.

Concerning construction for the reduction of grades north of the Red river, the report says that this work has been actively begun, and a large force is now employed. The company has secured between Atoka and the Red river a grade not exceeding four-tenths compensated in both directions. The original estimates were made to reduce grades to five-tenths southbound and allow the northbound grade to remain at 1 per cent. uncompensated. From Red river north the company now gets a new line with .4 grade compensated for 7.7 miles, which will be used by northbound trains, and will use the old grade of 1 per cent. for southbound business, making a double track on that part of the road. If the weather does not interfere materially it is probable that the entire work between Atoka and Red river will be completed within the coming year. Between Atoka and McAlester surveys are being diligently pushed, and work will be undertaken within a short time.

The ballasting of the main line from St. Louis to Dallas is finished excepting about 15 miles now being done. From Dallas to San Antonio and Houston there are remaining 225 miles to be ballasted. On the Oklahoma line the ballasting has

been completed between Parsons and Osage, leaving 85 miles to be finished, while from Oklahoma City to Atoka there are 62 miles, all of this now being under way.

The company has done and is doing considerable bridge and culvert work, in the case of the latter replacing wood with concrete. Arrangements have been made for renewing all of the remaining light bridges on the Waco and Houston divisions during the coming winter.

The company has relaid 85 miles of line north of the Red river with rails weighing 85 pounds to the yard. It has also put in the track 1,281,441 cross-ties and 855 sets of switch ties. It is now changing its mode of treating ties to the creosote process. During the year there were 649,922 cross-ties and 359 sets of switch ties treated at the Greenville plant.

Many new buildings have been erected, including three new passenger stations, eight combination stations, five new freight houses and five fruit sheds, besides other smaller buildings.

The equipment was increased by the addition of 30 locomotives, 8 postal cars, 2000 box cars, 100 ballast cars, 50 flat cars and 50 caboose cars, besides other maintenance equipment.

Industrial development has continued uninterruptedly throughout the year on all parts of the system, except that the activity in the oil field has greatly diminished as compared with the previous year. Every effort has been put forth to promote the further industrial development of the country tributary to the line, and important results in that direction have been accomplished, 108 industrial plants having been established during the year.

KANAWHA & MICHIGAN.

Large Growth of Traffic and Earnings During the Last Fiscal Year.

The sixteenth annual report of the Kanawha & Michigan Railway Co. for the fiscal year ended June 30, 1906, shows a very successful property. The gross earnings were \$2,152,763; the operating expenses and taxes, \$1,616,634; the net earnings, \$536,129. As compared with the previous year, the gross earnings increased \$388,589, or more than 22 per cent., and the net earnings increased \$292,740, or more than 120 per cent. The operating expenses and taxes are about 75 per cent. of the gross earnings. The net income for the year after the payment of interest charges and less rentals received was \$300,748. The astonishing increase in net earnings was the result of the liberal growth of traffic, with comparatively little increase in the operating expenses.

The increase in gross earnings was composed of the following items: From coal traffic, \$209,678; freight traffic except coal, \$122,589; passenger traffic, \$13,487; mail, express and miscellaneous, \$42,835. Bituminous coal formed the largest item of freight traffic, amounting to 72.86 per cent. of the total tonnage. The coke tonnage was 5.30 per cent. of the total.

The Kanawha & Michigan Railway Co. owns and operates about 158 miles of track, of which 100 miles is in West Virginia and the remainder in Ohio. It also operates, but does not own, about 19 miles more in Ohio. It connects with the Chesapeake & Ohio Railway at near Gauley Bridge, W. Va., and Decatur Axtell of Richmond, Va., who is chairman of the board, is also vice-president of the Chesapeake & Ohio, the president of the Kanawha & Michigan being N. Monsarrat of Columbus, Ohio. The lines run in connection with those of the Toledo & Ohio Central Railway, the first two officers of which are the same as those of the Kanawha & Michigan.

During the year the company carried

3,128,732 tons of freight and the ton mileage amounted to 349,378,247, an increase of 66,991,248. The average trainload was 496 tons, an increase of 44 tons, and the earnings per freight train mile were \$2.40, an increase of 22 cents. The number of passengers carried was 708,412, and the passenger mileage 14,708,002. The average number of passengers per train was 39, and the earnings per passenger train mile were 77 cents, or, including mail and express matter, 85 cents.

The company has 54 locomotives, increase 6; 20 passenger cars, increase 3, and 4121 freight cars, decrease 50, the latter being represented principally by cars destroyed.

The twenty-first annual report of the Toledo & Ohio Central Railway Co., whose lines connect with the Kanawha & Michigan, covers the year ended July 30, 1906. It shows gross earnings \$4,072,163, increase \$305,511; operating expenses and taxes \$3,067,889, increase \$140,080; net earnings \$1,004,274, increase \$165,431; net income, \$241,117. The ratio of operating expenses and taxes to gross earnings was 75.34 per cent.

New Equipment.

Among the latest news concerning railway equipment is the following:

The Pennsylvania Railroad Co. is reported to have ordered 4000 hopper cars, 2000 gondola cars, 900 box cars and 400 flat cars from the Pressed Steel Car Co., 2000 hopper cars from the Cambria Steel Co. and 2100 gondola cars from the Standard Steel Car Co., delivery to begin next April; cost \$15,000,000.

The Seaboard Air Line will purchase 1000 gondola cars and 500 box cars.

The St. Louis Southwestern Railway, it is reported, will build 350 box cars at its own shops at Pine Bluff, Ark.

Eight locomotives are being built by the Baldwin Locomotive Works for the Georgia, Florida & Alabama Railway.

The Louisville & Nashville Railroad, it is reported, has ordered 25 freight locomotives from the Baldwin Works, to be delivered in January and February.

The Georgia Coast & Piedmont Railroad is requesting bids for 100 flat cars, 20 box cars, 6 passenger cars and 2 baggage, mail and express cars. The flats are 60,000 pounds and the box cars are of the same capacity. The same company is building three 10-wheel locomotives at the Baldwin Works, delivery to be made in December.

The Colorado Southern, New Orleans & Pacific Railway Co., which is now building its line in Louisiana, has ordered from the American Car & Foundry Co. 500 steel underframe box cars of 80,000 pounds capacity each, 250 steel underframe flat cars of the same capacity, 200 steel underframe ballast cars of 100,000 pounds capacity and 75 oil-tank cars of 10,500 gallons capacity. Passenger equipment has been ordered from the Pullman Company as follows: Twelve passenger cars, 4 baggage cars and 4 combination baggage and mail cars. An order for 20 cabooses is to be let.

The Mobile & Ohio Railroad has ordered 10 more locomotives from the Baldwin Locomotive Works, making a total of 25 which are to be delivered before the end of the year.

The Chesapeake & Ohio Railway, it is reported, will purchase 350 more freight cars, this being in addition to 400 box cars of 80,000 pounds capacity for which prices are now being asked.

The locomotive order of the Colorado Southern, New Orleans & Pacific Railway consists of 26 consolidation engines to be built by the Baldwin Locomotive Works and 6 eight-wheel passenger engines, two 10-wheel passenger engines and 4 switching engines to be built by the American Locomotive Co.

LARGE BOND ISSUE.

Norfolk & Southern and Carolina Coast Propose Big Extension.

In connection with the formal calls for meetings of the Norfolk & Southern Railroad Co. and of the Virginia & Carolina Coast Railroad Co., Mr. Frank S. Gannon being president of each, an announcement from New York is of particular interest. A report from that city says that the John L. Roper Lumber Co. will within 60 days issue \$5,000,000 more of sinking fund first mortgage bonds, making a total issue of \$10,000,000 to be deposited in the treasury of the Norfolk & Southern Railroad.

Concerning this it is stated that when the Virginia & Carolina Coast Railroad Co. was formed last year the John L. Roper Lumber Co. deposited \$5,000,000 of these bonds in the railroad company's treasury, the financial plan being that when a proportionate amount of stumpage was paid each of these bonds by such action retired a bond of the railroad company. Furthermore, that when the Virginia & Carolina Coast Railroad Co. was enlarged last spring by taking in the Norfolk & Southern Railroad the lumber company also absorbed other lumber properties, which are now represented by the increased issue of \$5,000,000 of bonds to cover the stumpage.

In the call for the stockholders' meeting of the Virginia & Carolina Coast Railroad Co. it is stated that action will be taken upon a plan to build an extension from Edenton, N. C., to a point on or near the northwestern boundary of North Carolina. It is also proposed to make Suffolk, Va., the northern terminus and Columbia, N. C., the southern terminus of the railway. These plans are to be carried out to further the plan for constructing a total of about 600 miles of railroad, including lines already built in the eastern part of North Carolina, and for developing the extensive lumber property in connection therewith.

ROGERS MAY CONTROL IT.

Norfolk & Western Stock Sold by Pennsylvania Causes Interesting Report.

An interesting report comes from New York concerning the final disposition of the Norfolk & Western Railway stock recently sold by the Pennsylvania Railroad to Kuhn, Loeb & Co. This stock amounted to 160,000 shares, or about 20 per cent. of the road's capital stock. According to the report, it is believed that the stock will finally be owned by H. H. Rogers of the Standard Oil Co. and those who are associated with him in the construction of the Deepwater Railway and the Tidewater Railway, which are now being built from the Kanawha river to the Chesapeake bay.

Whether Henry C. Frick, who is a director in the Norfolk & Western and one of its largest stockholders, besides also being associated with the Standard Oil interests, is also interested in the Deepwater and Tidewater railways does not appear, but the fact that he is friendly to Mr. Rogers is expected to give the latter an important say in Norfolk & Western affairs to prevent the possibility of any action which might be detrimental to his own particular road.

The story is interesting as coming at this particular time, when much work has been accomplished on both the Deepwater and Tidewater lines, and when their completion next year is in sight.

It is also noted in New York that Mr. Rogers and Mr. Frick are directors in the Union Pacific Railroad, to which it is reported that Kuhn, Loeb & Co. have sold the Baltimore & Ohio stock recently bought from the Pennsylvania Railroad.

Cairo & Kanawha Extension.

Mr. C. B. Kefauver, secretary and general superintendent of the Cairo & Kanawha Railway Co., writes from Parkersburg, W. Va., that the proposed extension of the line is about eight miles long to Smithville, following the south fork of Hughes river in Ritchie county. There is no railroad at Smithville, and the extension simply enlarges the scope of the company's local business and penetrates farther than the present line into the southern part of Ritchie county, reaching for the business of the country tributary to the Little Kanawha river and the south fork of Hughes river in that region. It is expected to begin construction within the next three weeks, either the company or local contractors doing the work. The country through which the line will run consists of farming, timber and oil lands.

The only additional equipment which the company will probably need are a few flat and box cars, three-foot gauge, and 40-pound rails, relayers if they are exceptionally good.

Pensacola to Fort Barrancas.

Mr. D. P. Robinson, general manager of the Stone & Webster Engineering Corporation, 84 State street, Boston, writes the MANUFACTURERS' RECORD concerning the electrification of the steam road from Pensacola, Fla., to Fort Barrancas. He says:

"This road is about seven and one-half miles long. About one-half of it is now equipped with overhead trolley. The balance of the line is being similarly equipped, and preparations are being made to operate electric trains from Pensacola to Fort Barrancas. Motor cars have been ordered capable of handling trains of several cars.

"To furnish power for the line a 500-kilowatt engine-driven generator is being installed in the present power-house of the Pensacola Electric Co."

Morgantown & Southern.

Mr. J. W. Wiles, Morgantown, W. Va., writes the MANUFACTURERS' RECORD that the Morgantown & Southern Railway Co. will begin survey immediately and grading soon thereafter for the first mile of the proposed line, which is expected to be finished by December 20. It is hoped to later on build to Fairmont over 25 miles of West Virginia hills, mostly farming lands. Edward Herd is engineer at Morgantown. Equipment will be bought between October 20 and November 20, concerning which Mr. Wiles may be addressed. The directors are J. W. Wiles, president; D. B. Purinton, vice-president; C. R. Hayes, treasurer; Edward Herd, secretary and general manager; M. W. Reed, C. W. Huston and J. G. Saffelle.

Fayette to Tuscaloosa.

Mr. E. R. Bassett, vice-president of the Deposit and Savings Bank of Bowling Green, Ky., sends the MANUFACTURERS' RECORD information concerning the proposed development of timber land in Fayette county, Alabama, by a syndicate composed of Mr. Bassett, W. M. Kirby, F. Kister and others of Bowling Green. He says they may run a railroad down the Sipsey valley from Fayette, on the Southern Railway, to a point on the Mobile & Ohio Railroad west of Tuscaloosa. Their land consists of more than 4500 acres lying along the Sipsey river. Besides being valuable in timber, it is also fine agricultural land.

Lawton to Wichita Falls.

Mr. Frank M. English of Lawton, Okla., informs the MANUFACTURERS' RECORD that the Lawton, Texas & Northwestern Railway Co. proposes to build a line from Lawton, on the Chicago, Rock Island &

Pacific Railway and the St. Louis & San Francisco Railroad, to Wichita Falls, Texas, on the Colorado Southern Railway and the Missouri, Kansas & Texas Railway. The line will be 55 miles long, and is to be built immediately. The directors are F. M. English, C. C. Black, H. E. Julian, E. E. Shipley and C. W. Crabtree, all of Lawton, Okla. Officers to be announced later.

Glenville & Kanawha.

The MANUFACTURERS' RECORD is informed by an officer of the Glenville & Kanawha Railroad, Glenville, W. Va., that the company expects to place an engineering corps in the field immediately to determine the best location for the line. It is expected that active construction will begin as soon as the surveying and other preliminaries can be arranged. This road will pass through and open up to market about 25 miles of the finest "Pittsburg" coal in West Virginia.

Railroad Notes.

The Atlantic & North Carolina Railroad has issued a new timetable giving schedules for passenger trains and freight trains under date of Monday, September 24.

The Mobile & Ohio Railroad Co. has, it is reported, purchased a block of land at First avenue and 26th street in Birmingham, Ala., for a freight terminal, and will, it is said, send trains to Birmingham via the new extension of the Illinois Central Railroad and the Southern Railway.

Water-Works and Sewerage Engineer Wanted.

The Town of Murphy, N. C., has voted \$40,000 worth of bonds for the construction of a water-works and sewerage system. It will have the necessary plans and specifications prepared promptly, and in this connection it is of interest to state that the engineer in charge has not as yet been engaged. Applicants can address U. W. Bell, Mayor.

To Develop Extensive Deposits.

A dispatch from Van Buren, Ark., states that the Lee Creek Gas, Oil & Coal Co., which has a 20-year lease on 200 acres of land near Van Buren, has discovered an extensive phosphate deposit on the property. It is stated that a chemist reports 60 per cent. of phosphate in the deposit, and the company will establish a reduction plant at once.

The Pecan Tree. How to Plant It. How to Grow It. How to Buy It. Third edition. Publisher, the G. M. Bacon Pecan Co., Inc., De Witt, Ga.

In about 600,000 square miles of the United States, mostly in the Cotton Belt, pecans may be successfully cultivated, though the last Census showed 22 States with pecan trees in bearing. Expanding interest in the culture of this tree is indicated by the fact that the G. M. Bacon Pecan Co. has been called upon to publish a third edition of this work, treating comprehensively of all phases of pecan culture and based upon an experience which has brought the firm's immediate activities to bear upon a 700-acre pecan grove in Georgia and a pecan nursery containing more than a million trees of 27 of the leading standard and paper-shell varieties.

Congressman Burton, chairman of the rivers and harbors committee of the national House of Representatives, has been studying this week the conditions of rivers in several Southern States.

Officials of the Southern Railway and of the Atlantic Coast Line have become immediately interested in the proposed Bremen-Charleston line of the North German Lloyd Steamship Co.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

The Calhoun Mills.

Further facts of interest regarding the Calhoun Mills of Calhoun Falls, S. C., have been obtained by the MANUFACTURERS' RECORD. The company's main building will be three stories high, 257.4x131 feet, of brick, slow-burning construction; boiler-room will be equipped for heating and slathers; plant will be driven by electricity taken from the power of the Savannah River Power Co., Anderson, S. C., about 1000 horse-power being required for the full plant. The mill is planned for a total equipment of 25,000 spindles and 740 looms, but the initial instalment with which to begin manufacturing will be 15,360 spindles and 444 looms. Four-yard sheeting will be the product. Contracts for the buildings have been awarded, as stated last week. Contracts for the textile machinery have also been awarded, the contractor for the picking being the Kitson Machine Shop, Lowell, Mass.; cards, drawing and spinning, the Whitin Machine Works of Whitinsville, Mass., and looms, the Draper Company of Hopedale, Mass. The Calhoun Mills is a \$400,000 corporation, W. F. Cox of Anderson, S. C., being president. Mr. J. E. Serrine of Greenville, S. C., is the mill architect and engineer in charge.

Batesville Yarn and Cordage Mill.

The Batesville (Miss.) Yarn & Cordage Co. was referred to last week by the MANUFACTURERS' RECORD as having begun the construction of its proposed textile mill previously reported. The company effected organization with C. B. Vance, president; W. W. Perkins, vice-president; J. C. Price, secretary-treasurer, and Ben N. Love, engineer in charge. Its buildings (main mill 48x152 feet) will be erected of concrete blocks and will be equipped with 1500 spindles and accompanying equipment for manufacturing cotton yarns, wrapping twine and rope. All the machinery has been purchased and is expected to be in position by November 15. Capital stock is \$30,000.

To Build Another Mill.

It is reported that the American Net & Twine Co. will build another mill at Aniston, Ala., where it is operating a plant of 5000 spindles. This new mill will be equipped with about 10,000 spindles and accompanying equipment for the manufacture of cotton netting, twine, etc., and will cost about \$300,000. The improvements will include the erection of warehouses, operatives' cottages, industrial city facilities, etc. Contract for erecting the buildings has been awarded to the Flynt Building & Construction Co. of Palmer, Mass. The American Net & Twine Co.'s main offices are at 287 Atlantic avenue, Boston, Mass.

Fulton Company's Branch Mill.

The Fulton Bag and Cotton Mills of Atlanta, Ga., has awarded contract for the erection of branch establishment in Dallas, Texas. Messrs. Lang & Mitchell of Dallas are the architects for the structure, and the contractor is Alexander Watson of Dallas. The factory and warehouse will be five stories high and cost \$80,000. It will be equipped for supplying bags, bagging, twines, etc., to the company's trade in Texas and contiguous territory.

The Kannapolis Cotton Mills.

The MANUFACTURERS' RECORD is informed that contract has been awarded to Messrs. T. C. Thompson & Bro. of Birmingham, Ala., for the erection of the buildings required for the two cotton

mills which James W. Cannon and associates of Concord, N. C., will build at Kannapolis, on the Southern Railway, North Carolina. It is reported the mills will be two in number, to be equipped with 50,000 spindles and 1300 looms for the production of yarns and sheetings. The building contract is understood to amount to about \$350,000 and to include mills, warehouses and 200 operatives' houses.

Roberdel Manufacturing Co.

The Roberdel Manufacturing Co. of Rockingham, N. C., is proceeding with its enlargement previously announced. It has about completed the erection of a 72x100-foot addition to its mill that will provide space for the installation of 2500 spindles and 120 looms, which machinery has been contracted for. These improvements give the company a total of 10,500 spindles and 420 looms, which should produce 12,600 yards of gingham every day. The Crompton-Thayer Loom Co. of Worcester, Mass., is furnishing the weaving machinery.

To Interest Capital in Mill.

In a letter to the MANUFACTURERS' RECORD Ernest M. Davis of Camilla, Ga., states it is contemplated to build a cotton mill in his city. Mr. Davis says: "The people of this city are anxious to interest outside capital in erecting a large cotton mill here. We are happily located for such a mill, as we are just about in the middle of a large cotton field, so to speak, and will be willing to offer inducements to the right kind of a man or syndicate. We wish to interest experienced cotton-mill men or a syndicate backed by experience."

A Proposed Cotton Mill.

Mr. John C. Hand of Cedartown, Ga., advises the MANUFACTURERS' RECORD that he proposes to establish a plant for manufacturing from three to four bales of cotton daily into yarns suitable for duck manufacture. He intends to erect building that can be enlarged to permit of double the initial equipment, and the power plant to be installed will have a capacity for twice the original equipment. Plans and specifications for the factory structures and estimates on the textile machinery and power plant are wanted.

Construction of Oil Mill.

In connection with the construction of the proposed cottonseed-oil mill at Aberdeen, Miss., of the People's Oil Mill and Fertilizer Works, which was incorporated several months ago with a capital stock of \$100,000 and formal organization of the company referred to in this column on August 30, it is now announced that details for the plant have been determined and construction work progressing. The main building, it is stated, will be two stories high, of brick, with an average width of 40 feet by 207 feet in length. It will be divided into nine compartments separated by 18-inch fire walls, the different compartments being classified as the seed-cleaning room, linter room, press room, meal-grinding and storage room, fertilizer-mixing room, tool and supply room and boiler and engine room. The 18-inch walls are constructed on a 40-inch brick base, which, in turn, rests on a 44-inch concrete base. No sills or floor joists are used in the construction of the building, the first floor being supported on brick walls eight feet apart and the second story floor on 8x12-inch girders. The seed and hull building is 50x150 feet, two stories high, the lower story being 20 feet in height and upper story 16 feet. The structure is on brick walls five feet apart, and has driveways and sheds on the sides and rear. The power plant will be fireproof, having steel trusses and steel beams supporting a metal roof, with floors of concrete.

MECHANICAL

Flywheel Explosions—Safety-Device Fallacies.

By WM. BOEHM.

Every stationary engine is equipped with some sort of a speed-governing device. The governor is usually made by the builder of the engine and is considered a part of the engine. The object of the governor is to maintain the speed of the engine nearly constant at some agreed number of revolutions per minute.

There is always a slight variation in the agreed speed, because a change in speed is required to actuate the governing mechanism. In the flyball type of governor each of the two balls is attached to a rod pivoted to and revolved by a vertical spindle. The spindle is usually driven through gearing and pulleys by means of a belt from the main shaft of the engine.

When the load on the engine is normal the governor balls are revolving in their normal position and the speed remains normal. When the load increases the speed slackens because the amount of steam admitted was only sufficient for the normal load. The slackening of the speed, however, causes the governor balls to move inward. This movement actuates the valve so as to increase the supply of steam, whence the speed returns to or passes slightly beyond the normal. When the load decreases the speed increases and the balls move outward. This actuates the valve so as to diminish the supply of steam, whence the speed again returns to the normal.

The change in speed required to actuate a good governor is usually about 2 per cent. Thus an engine pulling a fluctuating load at a normal speed of, say, 100 revolutions per minute may be expected to vary in speed from 98 to 102 revolutions.

A fluctuation in speed of only 2 per cent. is immaterial, so far as the safety of the flywheel is concerned. Inasmuch, however, as the load on most engines is varying continually, the governor is working continually to keep the speed nearly constant.

So many disastrous flywheel wrecks have been caused by governor accidents that the market has been flooded with innumerable safety devices. Nearly all of them are designed with the idea that an accident to any part of the governing mechanism will actuate the safety so as to shut off the steam and stop the engine.

The breakage of governor belts is, for example, so frequent a cause of flywheel wrecks that every engine is nowadays equipped by its builder with some device that is expected to shut off the steam when the governor belt breaks. None of these devices can be depended upon, however, and some are worse than useless.

Take, for example, the safety device in use today on practically every Corliss engine running in the land. It is designed under the supposition that when the governor belt breaks the governor balls will suddenly drop to their lowest position, trip the cut-off and shut off the steam.

This device is defective in principle. Any boy who has ever spun tops knows that a top continues to revolve after it is free of the string, and that a considerable length of time elapses before the top dies down.

Now, the flyball governor on a Corliss engine is a top in principle. The balls are spun about on a vertical spindle that is practically frictionless. The governor belt is the string to this top. When it breaks the balls do not fall suddenly. They continue to revolve, dying down slowly as in the case of the top. And while the governor is dying down the balls are moving inward, admitting more and more steam and allowing the speed to become faster

and faster until the flywheel is burst by centrifugal force.

It may be argued that the mechanism should be arranged so as to trip the cut-off before the speed becomes dangerous. So it should, and it generally is when it leaves the engine builder's shop. But when the engine, under a fluctuating load, shuts down several times during the same day, upsetting each time the factory routine and bringing about innumerable complaints of service, most any engineer will either set the safety cams back or block the governor so as to render the safety device inoperative. The governor has to be blocked every time the engine is started up, and it is not unlikely that the engineer will purposely forget to remove the block.

Engine inspectors have reported innumerable instances where the safety cams have been deliberately removed and either lost or thrown away. Several instances have been reported where an inspector, after ordering a block removed from a governor, returned within 10 minutes to find the block in place again. Why any engineer should risk the destruction of his own life and his employer's property by a practice so dangerous is almost beyond understanding. We know, however, that he is at times almost forced to take such risks in order to avoid censure for interruption of service.

The failure of the regular safety devices to prevent flywheel wrecks has prompted the invention of special safety devices designed to act independently of the regular device. These special devices lessen the chances of accident somewhat, but they cannot be depended upon because they consist of complicated mechanism as easy to get out of order as any other mechanism about the engine.

Many flywheel wrecks are precipitated by the breakage of the main driving belt of the engine. These belts are heavy and run at a speed approximating a mile a minute. Why they break they are hurled with terrific force upon the governor and safety devices, putting them both out of commission. The engine, then free of its load and receiving steam at full boiler pressure, races, and the wheel is burst by centrifugal force.

The flywheel wreck which recently occurred at the Mansfield Railway, Light & Power Co. was a case of this kind. The engine was equipped with one of the best-known special safety devices on the market. It was the only engine of four in the plant equipped with this device. When the main driving belt broke it was hurled upon the governor and safety device. The governor was wrecked, and the sprocket chain, through which the safety device was expected to close the throttle valve, was broken in two. The bursting of the flywheel wrecked the plant and badly injured the engineer.

Improved Variable Friction Feed.

The primitive design of the circular-saw mill once accepted by lumber manufacturers has become a part of the scrap heap. Progress along this particular line of manufacture has been noticeable in recent years, the details of operating a sawmill have been closely studied, and problems have been solved that eliminate much of the worry and loss of time occasioned by the use of primitive methods. In this connection attention is called to the improved variable friction feed illustrated herewith. This is a comparatively new patent feed used for circular-saw mills.

The large face wheel works to and fro on the main saw mandrel on a feather key, thus preventing any tendency to move the mandrel on its own bearings, and the saw runs free from lateral pressure. The paper friction feed wheel can be made to traverse the face wheel and increase the motion of the feed-shaft pinion that drives

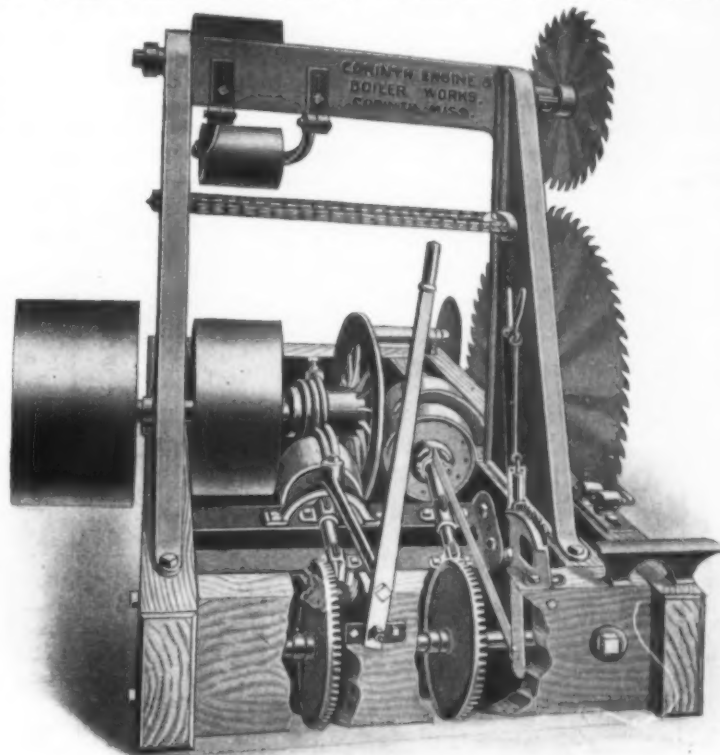
the carriage to any speed required from one and one-eighth inches to two and three-quarters inches on small mills and two inches to five and one-half inches on the larger mills to the revolution of the saw. This is done by the operator in an instant by the action of the smaller lever shown in the cut and locked at any point desired.

To gig back the carriage the large lever

in connection with rack and pinion or rope and drum drive for carriage, as preferred. It can be made to work on other makes of mills if the necessary dimensions are known.

A unique booklet, "Results," gives some statements founded on the experience of those who have used this feed.

The Corinth Engine and Boiler Works



AN IMPROVED VARIABLE FRICTION FEED.

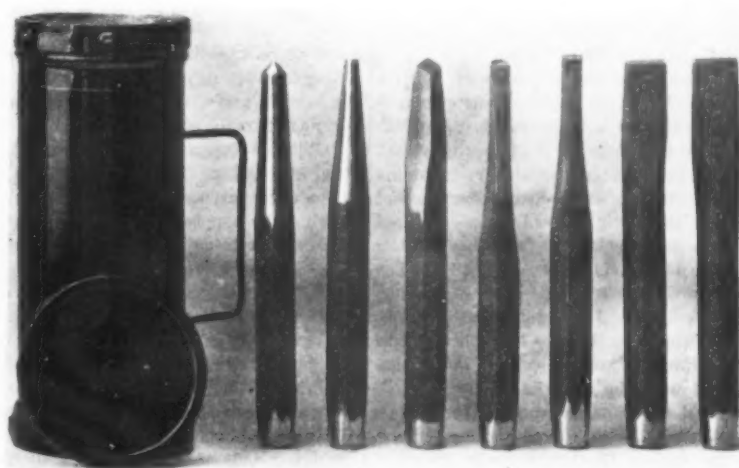
is moved two inches to the right, and the opposite side of the same face wheel meets the paper backing pulley and at the same time releases the paper feed pulley. The above method of feeding and giging back does away entirely with the cone pulleys and belt for same frequently used.

The pinions are made of steel so as to guarantee strength and wearing quality. The advantages of this feed are stated to be, first, to enable the operator to feed the log into the saw up to the full capacity of his power; second, to slow up when he

also builds engines, boilers and complete sawmills.

H. Mueller Handy Tool Kit.

An accompanying illustration presents a view of the H. Mueller handy tool kit, designed to be especially convenient for the plumber, gasfitter and water-works mechanic. This kit includes a center punch, round punch, diamond chisel, cape chisel, cold chisel and a combination calking chisel, arranged in a serviceable compartment box having the top and bottom lined



THE H. MUELLER HANDY TOOL KIT.

comes into a knotty place in the log, and instantly increase feed again when passed; third, by the use of this feed there is greater safety to the machinery and saw; fourth, more lumber can be sawed in a day by at least 20 per cent. than on the old-style feed, other things being equal.

This improved variable friction feed is manufactured by the Corinth Engine and Boiler Works of Corinth, Miss. It is furnished regularly with the company's "C" plantation or standard sawmills to be used

with sole leather in order to prevent injury to the tools or box. The box has a strong swiveled handle, and the top is removed by a half-turn and will not jar loose or give way. All the tools are made of high-grade 5% octagon steel, tempered and hardened at measured temperatures, insuring absolute uniformity of temper. They have each been given a practical test at the factory. The H. Mueller Manufacturing Co. of Decatur, Ill., offers this entire kit ready for the purchaser.

Balanced-Draft Gas-Producer Furnace.

At a recent meeting of the Brooklyn Engineers' Club an interesting paper on the balanced-draft gas-producer furnace as applied to steam boilers was read by Embury McLean, M.E., of the Engineer Company of New York. The paper is a description of apparatus which is claimed to accomplish the scientifically correct and commercially perfect combustion of fuel under boilers, and a tabulation of the economies and capacity increases resulting from the introduction of the apparatus in various representative plants was pre-

boilers present in forced or natural draft conditions, due to the inrush of cold air when the furnace doors are opened.

"The first impression from the illustrations may be that the furnace is of the underfeed stoker type, whereas the reverse is true; it operates on the overfeed principle. The design departs from all precedent, and the conveyor worm acts as a conveyor for only about one-third of its length. The pitch of the worm of the conveyor changes, just back of the front furnace wall, from an angle in which conveying predominates to an angle in which lifting predominates. The coal is forced from the hopper through the entrance tube

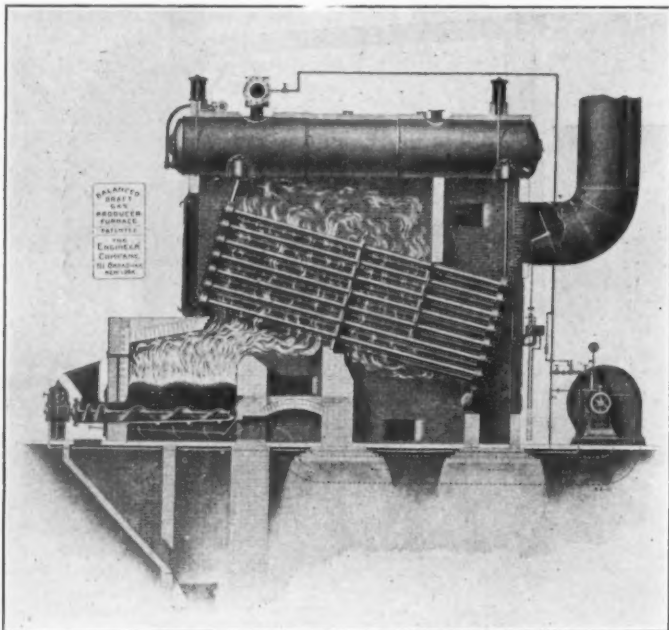
increased grate area, heat is produced by the combustion of the gas over the entire length of the trough between the grates. In other words, the space occupied by the trough is an effective portion of the furnace. Air is not fed to the trough, and there is nothing in the furnace that corresponds to tuyeres in stokers of the underfeed type. Combustion cannot take place in the trough, even though the supply of coal at the hopper should be interrupted or discontinued. Neither the worm nor any part of the conveyor proper can be subjected to injurious heat.

"As just the exact quantity of air necessary to maintain the rate of combustion to keep up the boiler pressure is supplied, and there is no suction from the chimney to draw an excess (usually as much as 100 per cent.) of air through the fire, or through the fire door when open, or through cracks in the boiler setting, or through porous brickwork, the temperature of combustion is not reduced by such excess of air, nor are the gases diluted and their temperature lowered, resulting in loss of efficiency of the heating surface and the carrying of an excess of heat up the chimney. It follows that as the blower can be run at maximum speed with a minimum loss of heat up the chimney, not only can greatly-increased economy be obtained when using the better grades of fuel, but the cheapest grade of fuel can be burned economically and at the same time the

one-half the amount ordinarily supplied to the furnace, the volume of the gases generated is reduced to substantially one-half that usually produced by the combustion of a given amount of coal. Consequently, the velocity of travel of the gases through the boiler can be reduced one-half and still pass the same number of heat units through the boiler in a given time.

"As time is an element in the absorption of heat by the boiler, it is evident that with balanced draft the boiler will absorb a much larger proportion of heat from the gases. If the temperature of the waste gases remained the same in a boiler after it is equipped with balanced draft as before, it is evident that the number of heat units passing up the chimney has been reduced one-half, due to the decreased volume of gas. If the temperature of the terminal gases is lower than under ordinary conditions, it is evident that more than one-half of the heat units, which were formerly wasted by passing up the chimney, have been absorbed by the boiler in useful work.

"When it is borne in mind that in a boiler of the Babcock & Wilcox type about 80 per cent. of the total evaporation is effected in the tube surfaces between the front headers and the first set of baffle plates at the bridge wall, it is evident that a boiler of this type can be operated with the balanced-draft system with no baffle plates without reducing the efficiency and



BALANCED-DRAFT GAS-PRODUCER FURNACE.

sented by Mr. McLean. An abstract of the paper is of interest, as follows:

"The balanced-draft gas-producer furnace is a mechanical apparatus for accomplishing commercially perfect combustion of fuel under boilers or in any furnace. The result is attained through a method of controlling the elements of combustion and the conditions under which they combine. The resulting economies average about 25 per cent. in the installations made to date, with about the same average increase in capacity. The capacity increase has amounted in exceptional instances to over 100 per cent.

"Highly unbalanced drafts to quicken the fire have been so universally employed that prejudice is incited against the contention that their use is inherently wrong. Balanced draft automatically maintains atmospheric pressure in the furnace and limits the air introduced to that required for perfect combustion through the entire range of demands upon the boiler. The gas-producer part of the furnace is a mechanical method of feeding the coal into the furnace so that the heat liberates the moisture and volatile matter, which combines with the requisite quantity of air heated to the temperature of combustion essentially as in a producer-gas furnace. The carbon is then entirely consumed while passing down the inclined grates.

"The draft is balanced by throttling the chimney suction in exact proportion to the speed of a specially-designed fan blower which supplies air to the ashpit, and its speed, in turn, is governed by variations in the boiler pressure. The rate of fuel feed is also controlled by the variations in boiler pressure, so that a constant ratio of air to coal is maintained for all rates of combustion. The attained result is that 12 pounds of air combining with 1 pound of coal produce maximum efficiency, maximum economy and reduce to a minimum the liability of injury to the furnace and

and into the U-shaped trough, from which it is lifted to the surface of the fire and allowed to roll gradually down the surfaces of the inclined grates, the proper inclination of which has been accurately determined. The variations in pitch of the conveyor worm, to provide an even distribution of coal from front to rear of the furnace, have also been accurately determined. In operation the fuel assumes an uneven surface from front to rear of the furnace, and has a wavelike motion, each wave corresponding to a cycle of the conveyor worm. This movement has been found to be exceedingly advantageous, assisting in loosening up the fuel and freeing the volatile gases, accentuating the producer-gas furnace effect.

"Ordinary furnaces coke the coal by slow combustion. In the balanced-draft gas-producer furnace the volatile gases are driven off by heat before combustion takes place, no air being admitted to the green coal. As the thickness of the bed of fuel on the inclined grates decreases, due to the contour of the top grate bars, the amount of air passed through correspondingly increases, producing the ideal condition of slow combustion at the start, gradually increasing to a maximum rate. Horizontal dumping grates extend from the lower ends of the grate bars to the side of the furnace. The coke and the residue pass down the inclined grates, and by the time they reach these flat dumping grates have been reduced to incandescent ash, which is from time to time dumped into the ashpit. A small part of the air which passes through the incandescent ash combines with any remaining particles of carbon, but the greater portion after being heated by the hot ashes combines with the volatile gases from the central part of the furnace.

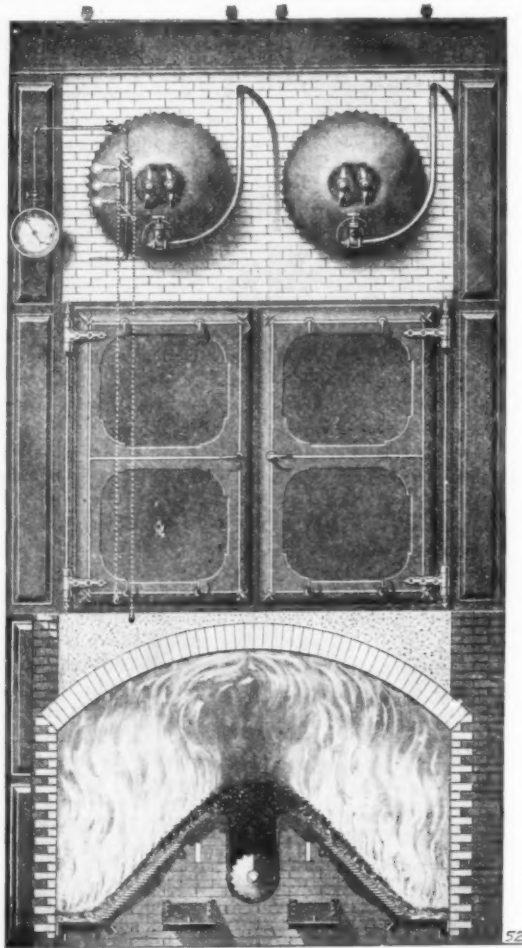
"An increased area of grate surface is obviously obtained with these inclined grates over ordinary grates. Besides this

normal boiler capacity maintained. Analysis of the chimney gases, where balanced draft is used, demonstrates that this result is effected, and it is not uncommon to obtain an average result of from 15 to 18 per cent. of CO₂, with scarcely a trace of CO, and 3 to 5 per cent. of O.

"As the rate of absorption of heat by a boiler varies with the difference of temperature between the gases and the boiler, it is evident that the increased initial temperature of the gases in the balanced-draft gas-producer furnace will result in a much higher rate of evaporation for the boiler. Furthermore, as the air is restricted to

with a large increase in the evaporating capacity. In other words, a boiler so equipped would evaporate between six and seven pounds of water per square foot of heating surface at substantially the same efficiency that it now evaporates 3.4 pounds of water when operated at its present rated capacity.

"A most important feature of the balanced-draft gas-producer furnace is its adaptability to great fluctuations of loads on the boilers; also its ability to adapt itself automatically, without any adjustment, to different grades of fuel. It is possible to change instantly from anthra-



FRONT VIEW OF GAS-PRODUCER FURNACE.

cite to bituminous coal, or vice versa, without any change in the adjustment of the apparatus, and without any variation in steam pressure during the change. Another feature worthy of consideration, especially in municipalities where there are laws against the smoke nuisance, is that highly volatile coal can be burned smokelessly, even when the boiler is operating considerably above its rated capacity.

"Economy in labor is another great consideration, as little effort is required of the operator, even though the furnace be forced to the highest heat conditions. Due

satisfactory results have been obtained under these conditions."

The method described, as well as the particular equipment to effect the results, are all broadly covered by United States and foreign patents granted to John McCormack, John C. Quinn and Embury McLean. These patents are owned by the Engineer Company, 111 Broadway, New York.

Hicks Locomotive and Car Works.

It is sometimes of interest to have one's attention called to the rapid growth of an industrial enterprise. Numerous instances

boiler shop 140x230 feet in size. A year ago an unequipped plant erected for a pipe mill was purchased and the buildings were, with the addition of 200 feet to the blacksmith shop and some minor alterations, adapted to the manufacture of cars by the installation of a complete modern equipment of machinery and tools. The capacity is from 10 to 15 new cars per day. Meanwhile Mr. Hicks had formed the firm of Messrs. F. M. Hicks & Co., consisting of himself and William McInnes. The rapid growth of their enterprise, which became widely known as the Hicks Locomotive and Car Works, finally prompted

rect-connected generator, etc. The foregoing synopsis indicates the character and extent of the Hicks plant, and it may be added that every department in both the East and West Works is equipped with the latest improved machinery, tools and me-



ORIGINAL PLANT 1897

THE HICKS LOCOMOTIVE AND CAR WORKS IN 1897.

chanical appliances to facilitate economy in manufacturing and maintain a high grade of product. The various departments are in charge of men of years' experience with the leading railway companies and rolling-stock builders of the country.

American Public Works.

The American Public Works Association at its second annual convention at Atlanta elected as officers Messrs. R. C. Huston, C. E., Hattiesburg, Miss., president; M. F. Cole, Newnan, Ga.; Chas. C. Wilson, Columbia, S. C., and George O. Tenny, Spartanburg, S. C., vice-presidents; W. H. Flint, Chattanooga, Tenn., secretary; Morgan Llewellyn, Chattanooga, Tenn., treasurer, and Edward J. O'Beirne, Atlanta, Ga.; A. J. Bowron, Birmingham, Ala.; C. M. Ladd, Chicago, Ill.; A. M. Lockett, New Orleans, La.; Chas. F. MacKenzie, Augusta, Ga., Maurice W. Thomas, Atlanta, Ga.; John Neal, Cincinnati, Ohio; Wm. B. King, Washington, D. C., and J. S. Slicer, Atlanta, Ga., executive committee.

Vehicle Builders to Meet.

The thirty-fourth annual convention of the Carriage Builders' National Association will meet at Atlanta, Ga., October 23-26, in connection with the Southern Vehicle Association and the National

Table Showing Increase in Economy and Capacity by Balanced Draft.

User.	Kind of draft.	Type of boilers.	Rated horse-power.	Horse-power developed.	Increased capacity with balanced draft—%	Kind of coal used.	Cost of coal per ton—Lb.	Water evaporated per pound dry coal—Lb.	Water evaporated per pound combustible—Lb.	Cost of 1000 horse-power per hour.	Saving effected—%
Midvale Steel Company, Philadelphia, Pa.	Natural.	W. T.	260	340	6.5	Buck.	2.25	8.06	10.06	4.30	6.9
	Balanced.	W. T.	260	340	..	Soft.	2.70	9.00	10.47	\$4.62	..
American Smelting & Refining Company, Perth Amboy, N. J.	Forced.	W. T.	500	506	..	Rice.	1.75	7.35	9.22	4.10	..
	Balanced.	W. T.	500	769	52.3	Rice.	1.75	9.20	10.63	3.28	20.0
Baldwin Locomotive Works, Philadelphia, Pa.	Natural.	W. T.	600	587	..	Soft.	2.70	8.62	9.71	4.82	..
	Balanced.	W. T.	600	631	8.0	Buck.	2.25	8.54	9.77	4.21	12.6
	Balanced.	W. T.	600	643	9.5	Rice.	1.75	9.10	10.67	2.97	38.4
	Balanced.	W. T.	600	759	36.1	Buck.	2.25	8.80	10.29	3.94	18.3
Albany Water-Works, Albany, N. Y.	Steam jet.	H. R. T.	340	356	..	Rice.	2.07	7.27	8.03	5.26	..
	Balanced.	H. R. T.	340	420	18.0	Rice.	2.07	9.46	11.57	3.79	28.0
	Balanced.	H. R. T.	340	481	35.0	Rice.	2.07	10.22	11.71	3.52	33.0
U. S. Postoffice Building, Brooklyn, N. Y.	Natural.	H. R. T.	160	172	..	Soft.	3.30	10.50	12.00	5.05	..
	Balanced.	H. R. T.	160	172	..	Rice.	2.35	8.80	10.89	4.28	15.1
Perth Amboy Chemical Company, Perth Amboy, N. J.	Natural.	W. T.	120	124	..	Pea.	2.80	6.83	8.15	7.10	..
	Balanced.	W. T.	120	185	49.0	Buck.	2.20	9.57	11.80	3.96	44.0
Bement, Miles & Co., Philadelphia, Pa.	Natural.	W. T.	125	132	..	Soft.	2.70	7.75	8.83	5.37	..
	Balanced.	W. T.	125	195	47.7	Rice.	1.75	7.83	9.16	3.45	35.0
Flatiron Building, New York.	Natural.	W. T.	340	267	..	Soft.	4.00	9.77	10.60	6.40	..
	Balanced.	W. T.	340	383	43.4	Rice.	2.68	9.61	11.25	4.20	34.3
	Balanced.	W. T.	300	388	43.8	Soft.	4.00	11.50	12.10	5.33	16.7
Mutual Life Insurance Building, New York.	Natural.	W. T.	300	139	..	Brkn.	4.95	9.28	11.21	8.20	..
	Balanced.	W. T.	150	167	20.1	Buck.	3.25	10.10	11.95	4.95	39.6

to the limitation and even distribution of air supplied, there is no clinker formed, so that the ash can be readily dumped into the ashpit, and if desired as readily removed by automatic machinery. Where the coal is fed to the hoppers through chutes one fireman can easily attend to 2000 horse-power of boilers.

"The front end of the conveyor shaft is placed in a ball-bearing journal, so situated that the heat of the furnace does not reach it. The end thrust from the shaft when in operation is received by a flange equipped with ball bearings. The outer edge of the worm is corrugated, so that foreign substances introduced with the coal, such as nails, spikes or chips of wood, cannot wedge between the worm and the trough. So effective is this arrangement that it is possible to pass a bucket of wrought-iron and cast-iron scrap from the hopper into the furnace without interfering with the operation of the apparatus or the feeding of the coal. Lump bituminous coal may be used without the intermediary of a crusher.

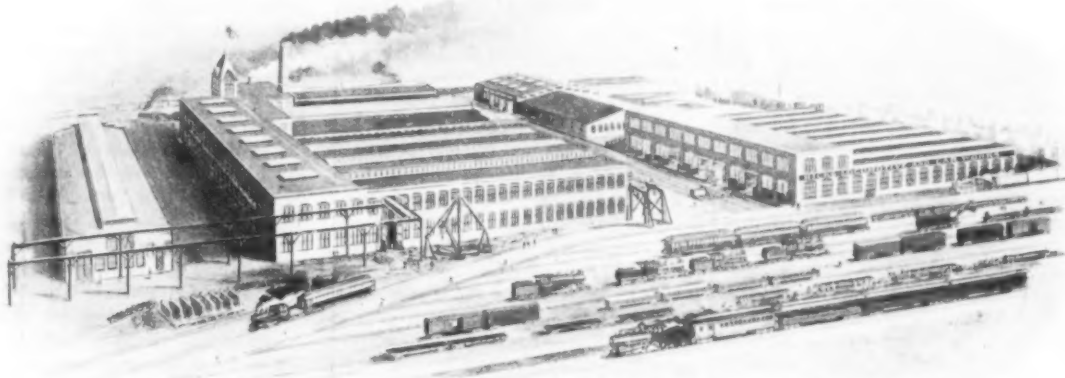
The balanced-draft gas-producer furnace has been subjected to an exceptionally severe test at the plant of the American Smelting & Refining Co. at Perth Amboy, N. J., where the full working conditions prevail continuously 24 hours a day, including Sundays and holidays. Since January 2, 1906, there has been but one shutdown, and that for but a single day, for the purpose of cleaning the boilers. Nothing has been spent for repairs or renewals. At this plant in evaporation tests with the No. 2 buckwheat anthracite coal the furnace showed an evaporation of 10.1 pounds of water from and at 212 degrees per pound of dry coal, and with bituminous coal 11.2 pounds of water from and at 212 degrees per pound of dry coal. Results of tests in a few of the plants where the furnace has been installed are given in the accompanying table, showing the conditions before and after the change in equipment.

"Obviously there is nothing to prevent the operation of an ordinary furnace with flat or dumping grates using hand firing balanced draft; in fact, the original researches, inventions and patents were in connection with such furnaces, and most

of this kind could be cited. One which may be mentioned is the Hicks Locomotive and Car Works, two illustrations of which are presented herewith, located at Chicago, Ill. One view shows the limited dimensions of the original establishment and the other view is a section of the present extensive plant at Chicago Heights, in the suburbs of Chicago. In 1897 F. M. Hicks began to deal in railway equipment, principally second-hand locomotives, and he depended upon railway shops for his rebuilding and repair work. He soon found that there were delays and difficulties in this method which prevented him giving

them to incorporate, and last May the Hicks Locomotive and Car Works was chartered with a capital stock of \$1,200,000 and the following officers: President, F. M. Hicks; vice-president, Elliott C. Smith; treasurer, William McInnes; assistant treasurer, E. Hope Norton, and assistant to the president, C. A. Ralston.

The accompanying view of a section of the present plant shows the West Works, devoted to rebuilding locomotives for sale, repairing locomotives for various railways, contractors and others, and to repairing and building coaches. The West Works occupies 17 acres, and includes a 68x140-



ONE SECTION OF HICKS LOCOMOTIVE AND CAR WORKS IN 1906.

purchasers that full satisfaction which he aimed to afford them. Consequently a repair shop of limited size was established. In 1899 better facilities were required, and Mr. Hicks built a one and two-story building 170x250 feet and equipped it with the modern machinery of a machine and locomotive erecting shop. Soon came a demand for freight cars and passenger coaches, and a coach department was added. Later on this department was extended by a brick addition 170x200 feet, with space for 22 coaches. Following this came dry-kilns and lumber sheds, and most recently a power-house, blacksmith and

foot storehouse, extensive machine shops, tin shop, brass shop, electrical department, erecting shop for locomotives 170x180 feet, containing eight tracks with pits for from 24 to 34 locomotives; boiler shop, 80x230 feet; blacksmith shop, 50x140 feet; coach house, 170x200 feet; wood-working mill, paint shop, etc. The East Works occupies 20 acres, and is used entirely as freight-car shops. It includes erecting shop, 220x345 feet; blacksmith shop, 60x280 feet; power plant of 400 horse-power, including engine belted to a 180-kilowatt generator, to which is being added a 500-horse-power engine with di-

Farm Wagon Association. Officers of the Carriage Builders' Association are Messrs. A. G. Brunsmann of Cincinnati, Ohio, president; Henry C. McLeer of Wilmington, Del., secretary and treasurer, and Daniel T. Wilson of New York, chairman of the executive committee; of the National Farm Wagon Association are Messrs. Max Robinson of Martinsburg, W. Va., president, and B. P. Thornhill of Lynchburg, Va., secretary, and of the Southern Vehicle Association are Messrs. Louis Gregory of Chase City, Va., president, and Charles P. Henderson of Valdosta, Ga., secretary.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Retail Dealers' Association.

The Retail Lumber Dealers' Association of Mississippi and Louisiana held its tenth semi-annual convention at Shreveport, La., on Tuesday and Wednesday of last week. The meeting was called to order by Mr. L. C. Allen of Shreveport, who introduced Mayor Andrew Querbes. Mayor Querbes made an address of welcome, which was responded to by Vice-President O. B. Hopkins of Lafayette, La. President B. A. Tucker of Senatobia, Miss., announced the committees on auditing, finance, resolutions, association at large and constitution and by-laws, after which the report of the treasurer was read by Secretary W. G. Harlow. At the second day's session addresses were made by Secretary Paul Lachmund of the Wisconsin association, Secretary S. T. Swinford of Texas and H. H. Hemmenway of the Colorado-Wyoming association, advocating the importance of organization of lumber interests throughout the country and closer relations between the manufacturer and retail dealer. A report was submitted by the chairman of the committee on association at large recommending that the secretary of the association use his influence toward amending the constitution of the Lumber Dealers Secretaries' Bureau of Information in order to make that organization a national one. This report was adopted. A resolution was also adopted disapproving of shipments by manufacturers to consumers where commissions are received. The association adjourned to meet at Jackson, Miss., on the second Tuesday of March, 1907.

Improves Lumber Plant.

In connection with recent reports that it has purchased the village of Elkhurst, W. Va., from the Elkhurst Planing Mill Co., consisting of planing mill, office building, store and dwellings, and will undertake extensive improvements to the property, the Collins Lumber Co. of Charleston, W. Va., writes the MANUFACTURERS' RECORD that it purchased a small planing mill from the Elkhurst Planing Mill Co. last January and immediately began the construction of an extension 231x50 feet for a flooring plant. It also constructed a dry-kiln with two compartments, 90x40 feet, the improvements costing about \$20,000. The plant is now in operation, having a daily capacity of 15,000 feet and producing oak and beech flooring and general planing-mill stock. On the 17th inst. the company purchased the village of Elkhurst and is preparing to move its office from Charleston to that town, which is the railroad station, the postoffice being Yankee-dam, W. Va. Officers of the company are Messrs. David S. Collins, president, and Charles S. Ross, treasurer.

To Enlarge Tie-Treating Plant.

It is announced that the tie-treating plant of the Missouri, Kansas & Texas Railway system, which is located at Greenville, Texas, will soon be enlarged and improved to double its present capacity. The present buildings, it is stated, will be torn down and larger ones constructed and the zinc process of treatment will be changed to the creosoting process. The plant is expected to have an annual capacity of 2,500,000 ties, and will also be used for treating timbers for bridges, culverts, etc., for the entire railway system.

Purchase Timber Land in Virginia.

Messrs. Norman E. Knepper and Isaiah Good of Somerset, Pa., are reported from Pearisburg, Va., as having closed negotia-

tions for the purchase of 4500 acres of timber lands from the Giles County Lumber Co. of Franklin, Va. The property is located in Giles and Bland counties, on Wolfe creek and on the line of the New River, Holston & Western Railroad, now being extended into Bland county. It is stated that the purchasers will erect a large sawmill at once for developing the timber. Negotiations were conducted by Mr. W. N. Camp of Roanoke, and the consideration is stated at \$20,000.

Mahogany Through New Orleans.

The C. C. Mengel & Brothers Company of Louisville, Ky., has recently received a cargo of 1,000,000 feet of mahogany from Honduras through the port of New Orleans, La., and is reported as making arrangements for receiving another cargo of 1,250,000 feet from Africa. It is stated that the receipt of the African cargo is in the nature of an experiment in order to determine whether or not these imports can be profitably handled at New Orleans. If the results are satisfactory, it is announced that the company will establish a line of ships from this port to handle its African products.

Timber Lands Change Ownership.

A dispatch from St. Louis, Mo., states that negotiations have been completed in that city for the sale of the principal holdings of the Standard Lumber Co. of Standard, La., to the Central Lumber Co. of Clarks, La. The property consists of about 38,000 acres of yellow-pine timber lands, with a sawmill plant at Standard having a daily capacity of 60,000 feet. It is understood that the Louisiana Lumber Co. of Rochelle, La., purchases part of the timber. The deal is reported to involve an expenditure of about \$250,000.

Big Contract for Ties.

A dispatch from Lexington, Tenn., states that Messrs. P. J. Dennison and Thomas A. Enochs, both of that city, have secured a yearly contract with the Nashville, Chattanooga & St. Louis Railway to purchase ties for the system from Hollow Rock Junction to Memphis and from Lexington to Perryville. Messrs. Dennison and Enochs, it is stated, will engage the cutters, purchase the timber and deliver the ties to subagents at different stations along the line. It is understood that the contract calls for 125,000 ties yearly.

Interest in Sawmill and Timber.

The Commercial Lumber Co., D. L. O'Neal, manager, of McHenry, Miss., writes the MANUFACTURERS' RECORD that it has purchased all the interest of the Draughn & Cahal Lumber Co. at Shivers, Miss., with about 10,000,000 feet of yellow-pine timber, for a consideration of \$16,500. The Commercial Lumber Co. is now operating the plant, and states that it is prepared to receive orders for lumber both for export and domestic trade.

To Establish Veneer Plant.

A charter has been secured for the West Virginia Veneer Door Co. of Parkersburg, W. Va., capitalized at \$100,000, for the purpose of manufacturing veneer doors, sash, interior work of all kinds and building supplies. Incorporators of the company are Messrs. J. H. P. Smith, Thomas Shaw, W. W. Waterson, C. T. Hiteschew and W. J. Davidson.

Information on Hardwood Products.

Information regarding marketable hardwood products is solicited by the J. H. Edwards Company of Decatur, Ala. The company manufactures telephone pole supplies, and wishes to enlarge the scope of its plant by making other articles in demand. It has available for its mills such woods as oak, ash, hickory and maple,

some dogwood and persimmon, also black locust.

Wants Crossties.

The Birmingham (Ala.) Terminal Co., Walter H. Harrison, chief engineer, will receive proposals until October 1 for 9500 hewn post oak, white oak or long-leaf yellow-pine crossties 7x9x8-6 inch f. o. b. Birmingham, and for 60 sets of sawed long-leaf yellow-pine 7x10 switch ties; inspection to be made at shipping point.

Turpentine Operators and Labor.

Officers of the Bulloch County (Georgia) Turpentine Operators' Association have called a meeting of the operators of the State to be held in Savannah on October 4 for the purpose of organizing a State association and of taking some action with reference to labor conditions and other matters that affect the industry.

Buys Timber Land.

Messrs. E. R. Bassett, W. M. Kirby, F. Kister and associates of Bowling Green, Ky., have purchased a tract of 4500 acres of timber land in Tuscaloosa and Fayette counties, Alabama, for development purposes. It is estimated that the tract will cut about 40,000,000 feet of timber.

President W. T. McGowin of the Southern Turpentine Operators' Association has issued a call for a meeting of the association at Relief Hall, Mobile, Ala., on October 3.

Appalachian Engineering Association

An interesting feature of the fall meeting at Welch, W. Va., of the Appalachian Engineering Association was its visit of inspection to four of the eight plants of the United States Coal & Coke Co. at Gary. The association will hold its annual meeting at Charleston, W. Va., February 2, when action will be taken on the threatened discontinuance of the appropriation for geological work in West Virginia, which has been so well conducted. The officers of the association are Messrs. Joseph F. Kent, president; A. Wagner, vice-president; W. H. Mannakee of Sprigg, secretary, and R. H. Buchanan, treasurer.

The Management of Electrical Machinery.

By Francis B. Crocker, E.M., Ph.D., professor of electrical engineering, Columbia University, past president of American Institute of Electrical Engineers, and Schuyler S. Wheeler, president of American Institute of Electrical Engineers, member of American Societies of Civil and Mechanical Engineers. Published by D. Van Nostrand Co., 23 Murray street, New York. Price \$1.

The contents of this book appeared as a series of articles in the *Electrical Engineer* between September, 1891, and May, 1892. Its object is to give simple directions for the practical use and management of dynamos and motors. Especial care has been taken by the authors to arrange the materials so that the different subjects are treated separately and in the proper order, and the headings are printed in heavy type to facilitate ready reference to any subdivision. It is recommended that the reader familiarize himself with the plan and contents so that he may when at work be able to turn readily to any part required. This volume is designed simply as the ground work of a larger and more elaborate treatment of the subject which they contemplate preparing, and they will appreciate any suggestions. Since the original articles were written the rapid progress of electrical engineering has, of course, brought changes, and all are considered and revisions have been made where necessary. People who are concerned in the practical management of dynamos and motors will find this volume of value.

MINING

To Develop West Virginia Coal.

The Bituminous Coal Company of America, with offices at 299 Broadway, New York, to which reference was made in this column September 13, informs the MANUFACTURERS' RECORD that it has leased about 1200 acres of coal lands near Moundsville, W. Va., and will install a mining plant to have a daily capacity of 1500 tons. The plant will involve an expenditure of about \$90,000, the construction work to be in charge of a committee chosen from the directorate of the company. This committee will be appointed within a short time, and estimates for mining equipment, etc., will probably be submitted to contractors the latter part of October or the first of November. Details as to the selection of a constructing engineer have not been determined as yet. Officers and directors of the company are Messrs. William Godnick, president; William G. Smith, vice-president; H. L. Robinson, secretary; Charles B. Howe, treasurer; Lorentz Mahmro, Edwin W. Foster and J. J. Terhune of Brooklyn.

New River Car Allotment.

A new schedule of car allotment in the New River and Kanawha coal fields, which recently went into effect on the Chesapeake & Ohio Railway, is said to have caused a good deal of apprehension among operators whose allotment was materially reduced that there would not be a sufficient supply of cars to enable them to keep up the production at their mines. It is understood, however, that Superintendent Grice of the railroad assured the shippers that there would be a sufficient number of cars at all the mines and there was no need for alarm. The new allotment, which is said to make a greater reduction of cars in the New River than in the Kanawha field, is based upon the report of Messrs. J. W. Huron and John Skean of the Southern Railway, who were engaged to investigate conditions at every mine in the districts and gather data upon which to base a schedule.

Mining Notes.

The Miners' Mutual Coal Co. of Raven, Va., has been incorporated with an authorized capital stock of \$50,000. Officers of the company are Messrs. B. L. Fink of Odd, W. Va., president; H. L. Walker, Babscott, W. Va., vice-president; A. B. Shannon, Pineville, W. Va., secretary.

Messrs. M. L. Hutchinson and C. E. Hutchinson of Fairmont, W. Va.; V. L. Highlands, S. C. Denham and M. G. Sperry of Clarksburg, W. Va., have incorporated the Hutchinson Fuel & Supply Co. of Fairmont and Clarksburg with a capital stock of \$300,000 to acquire coal lands, mine coal and manufacture coke.

The Garland County Mining Co. has been incorporated at Hot Springs, Ark., with a capital stock of \$150,000 to engage in mining and mercantile operations. Officers of the company are Messrs. W. M. Cecil, president; R. C. Henderson, vice-president; L. B. Roberts, secretary, and J. W. Westmoreland, treasurer. In addition to the officers, Mr. W. H. Crawford was elected a director.

Messrs. E. Breckenridge Moon & Co. of Asheville, N. C., confirm the report mentioned last week that they have found large quantities of copper deposits on lands which they have acquired. These lands are located in Tennessee near Ducktown, and in Georgia. It is proposed to subdivide the properties and organize several stock companies to take over and develop the copper-bearing leads.

Plans are making for an organization of the retail merchants of Virginia.

Construction Department

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY.

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ADDRESS FULLY.

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECTLY.

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

ALABAMA.

Anniston, Ala.—Net and Twine Mill.—American Net & Twine Co. is reported as to build a 10,000-spindle addition to present plant of 5000 spindles. Mills, warehouses, cottages and other improvements are to be included. It is said, at a cost of from \$300,000 to \$400,000. Contract for erecting the new mill building is stated as awarded to the Flynt Building & Construction Co. of Palmer, Mass. The American Company has offices at 287 Atlantic avenue, Boston, Mass.

Bessemer, Ala.—Coal Mines.—Bessemer Coal, Iron & Land Co. (not the Bessemer Coal, Land & Improvement Co.) is the correct title of company mentioned September 13 as increasing capital stock to \$250,000 to make improvements at its various mines; Motley & Dryden, Birmingham, Ala., engineers in charge. The company also has offices at Birmingham.*

Birmingham, Ala.—Cotton Compresses.—Chartered: Merchants' Cotton Co., with \$10,000 capital stock, to operate cotton compresses and warehouses. James A. Downey is president; George C. Ford, secretary-treasurer.

Birmingham, Ala.—Land Improvement.—Quinn & Kelly Realty & Rental Co. has been incorporated with an authorized capital stock of \$25,000. M. B. Quinn is president; M. L. Kelley, secretary and treasurer.

Birmingham, Ala.—Street Paving.—Dunn & Lallande Bros. are lowest bidders and have been awarded contract at \$4098 for grading and macadamizing streets, curbing and laying concrete gutters under improvement ordinance No. 337.

Birmingham, Ala.—Iron Foundry.—Birmingham Concentrating & Iron Co. has been incorporated with \$50,000 capital stock by J. M. Stillwell, R. H. Elliott, J. J. Farmer and P. T. Whilden.

Birmingham, Ala.—Coal Mines.—Crystal Coal Co. has been incorporated with \$60,000 capital stock. Culpepper Exum is president; John L. Kaul, vice-president, and W. E. Leake, secretary-treasurer.

Bridgeport, Ala.—Mill Machinery.—DeLoach

Mill Manufacturing Co., manufacturers of mill machinery, Atlanta, Ga., will remove plant to Bridgeport about January 1, 1907. It will occupy the pipe works formerly owned by the United States Pipe Works, and will erect an additional building 100x600 feet, constructed entirely of concrete, including the roof. When completed the plant will represent an investment of \$150,000. A. A. DeLoach is president. (Company was previously reported as to build an entirely new plant.)

Mobile, Ala.—Paving Company.—Hercules Paving Co. has been incorporated with \$15,000 capital stock. Herman Ruffi is president; Thomas J. Ford, vice-president, and Andrew Strauss, secretary-treasurer.

Mobile, Ala.—Dredging.—George E. Barker, Wilmington, Del., has contract at eight cents a cubic yard for making the Mobile bay channel a uniform depth of 23 feet.

Newville, Ala.—Cotton Gin.—Farmers' Gin Co. has been incorporated with \$500 capital stock by W. W. McCleury, T. J. Bond, A. T. Bond, N. A. Bond, M. Harris and associates.

Tuscaloosa, Ala.—Timber Land.—E. R. Bassett, W. M. Kirby, F. Kister and others of Bowling Green, Ky., have purchased 4500 acres of timber land in Tuscaloosa and Fayette counties, Ala., as mentioned last week. It is estimated the tract will cut about 40,000,000 feet of timber.

ARKANSAS.

Batesville, Ark.—Sewerage System.—E. A. Kingsley, Little Rock, Ark., is engineer in charge of the construction of sewerage system mentioned last week; estimated cost \$14,000. M. C. Weaver is chairman of board of commissioners, and John Q. Wolf, secretary.

Bono, Ark.—Telephone System.—A company has been organized with W. B. Broom, president; Riley Stichham, vice-president, and George A. Lamb, secretary, to construct telephone system.

Chidester, Ark.—Hardware and Furniture. J. H. Pickett, J. W. Scott and W. W. McGill have incorporated the Chidester Hardware & Furniture Co. with \$10,000 capital stock.

Corning, Ark.—Lumber Company.—Chartered: Union Hickory & Lumber Co. with \$3000 capital stock by Thomas W. Fry, H. C. Dew and John W. McKee.

Cotter, Ark.—Pencil Factory.—American Pencil Co. is reported to erect pencil factory.

Fort Smith, Ark.—Coal Mining.—L. M. Wells, J. G. Horner, T. T. Crouch, A. C. McDull and D. H. McDowell have incorporated the New State Coal & Mercantile Co. with \$100,000 capital stock.

Greenfield, Ark.—Sawmill.—Greenfield Lumber Co. will erect single-band mill, equipping for a daily capacity of 30,000 feet of hardwood, replacing plant reported burned.

Hot Springs, Ark.—Mining.—Garland Mining Co. has been incorporated with \$150,000 capital stock. W. M. Cecil is president; R. C. Henderson, vice-president; L. B. Roberts, secretary, and J. W. Westmoreland, treasurer.

Humphrey, Ark.—Sawmill.—Staeb Lumber & Manufacturing Co., reported incorporated August 30, has begun the erection of sawmill for the development of 1982 acres of timber land which it owns near Humphrey.

Little Rock, Ark.—Ice Plant.—It is reported that the Little Rock Brewing & Ice Co. will install machinery for increasing the capacity of plant 150 tons.

Little Rock, Ark.—Reduction Plant.—Little Rock Sanitary & Reduction Co. has applied for franchise to erect reduction plant.

Malvern, Ark.—Electric-light Plant.—City has granted franchise to the Ong Chair Co. to erect electric-light plant.

Paragould, Ark.—Handle Factory.—Reported that the Turner, Day & Woolworth Handle Co., Louisville, Ky., has purchased three acres of ground on which to erect handle factory.

Van Buren, Ark.—Phosphate Mining, etc.—Lee Creek Gas, Oil & Coal Co. has begun the development of phosphate deposits on 200 acres of land which it has leased, and will also arrange for the erection of a reduction plant.

Van Buren, Ark.—Cotton Mill.—E. D. Miller is reported as organizing a \$300,000 stock company to build cotton mill.

Van Buren, Ark.—Electrical Supplies.—Van Buren Electrical Supply Co. has been organized by C. B. Williams, Arthur Todd and Harry Todd to deal in electrical supplies and fixtures.

DISTRICT OF COLUMBIA.

Washington, D. C.—Refrigerating Plant.—Kings & Co., 90 C street N. W., have awarded contract to W. E. Speir Company, 1342 New York avenue, for the construction of refrigerating plant at 630 Pennsylvania avenue N. W.; three stories, 23x115 feet; brick with stone trimmings; reinforced concrete construction; slag roof; compressed cork insulation; electric wiring and fixtures; sanitary plumbing; elevator; cost about \$25,000; A. P. Clark, Jr., architect, 605 F street N. W.

Washington, D. C.—Bottling Plant.—The Northwestern Bottling Co. has been incorporated with capital stock of \$25,000 to operate bottling plant by Leo A. Finn, 1901 Lincoln avenue N. E., Frank C. Heil and Karl Egloff.

FLORIDA.

Clermont, Fla.—Ice Plant.—It is reported that a six-ton ice plant will be installed, and Will Kern can give information.

Dunnellon, Fla.—Electric-light Plant and Water-works.—Standard Electric Co., Jacksonville, Fla., it is reported, has contract to construct proposed water-works and electric-light plant.

De Funiak Springs, Fla.—Electric-light Plant, Water-works and Sewerage System.—City has engaged Wm. T. McCormick as engineer to prepare plans and specifications for electric-light plant, water-works and sewerage system. About \$50,000 will be expended in improvements to include the erection of school building.

Plant City, Fla.—Phosphate Plant.—Saunders Phosphate Co. has been organized with \$30,000 capital stock. G. A. Saunders of Forks, Va., is president; W. C. Hathecock, manager, and M. N. Blanton, secretary-treasurer, both of Plant City. Construction work on plant will begin at once.

GEORGIA.

Albany, Ga.—Glass and Sand-lime Brick Plants.—J. M. Tift and associates are organizing company with \$50,000 capital stock for the development of the sand hills near Albany and the establishment of glass and sand-lime brick plants to utilize the sand obtained.

Athens, Ga.—Cotton Mill.—Princeton Manufacturing Co. is reported as to improve and enlarge its building; present equipment 3600 spindles.

Atlanta, Ga.—Cold-storage Plant.—Williams-Thompson Co. is reported to erect cold-storage plant.

Atlanta, Ga.—Electric-light and Gas Plant. The installation of electric-light and gas plant is being considered, and a committee has been appointed to investigate the cost. James L. Key is chairman.

Augusta, Ga.—Hardware.—J. A. Anderson, E. M. Fuller and M. B. Hatcher have incorporated the Augusta Hardware Co. with \$50,000 capital stock.

Bainbridge, Ga.—Steamboat Line.—Chartered: Callahan Line, with \$25,000 capital stock, by J. W. Callahan, E. L. Magruder, G. B. Toole, J. B. Mayes and John E. Donaldson, to operate river steamers on the Flint and Chattahoochee rivers.

Brunswick, Ga.—Ice Plant.—Glynn Ice Co. will erect ice plant with a daily capacity of 40 to 45 tons.

Camilla, Ga.—Cotton Mill.—Ernest M. Davis, and associates contemplate organizing company to build a large cotton mill.

Cedartown, Ga.—Cotton Mill.—John C. Hand proposes to establish mill for spinning yarns suitable for duck manufacture; capacity to be three or four bales of cotton daily. Power will be installed for double this capacity. Plans and specifications for buildings and machinery will be wanted. No contracts have been awarded.*

Central Junction (P. O. Savannah), Ga.—Timber Development.—Tennessee Lumber Manufacturing Co., Pottsville, Pa., is the purchaser of tract of timber land in this vicinity referred to last week. The company, it is stated, will arrange for the development of the tract and will erect a large sawmill.

Columbus, Ga.—Street Paving.—H. R. Jones, 1209 Second avenue, has contract for paving work on property at Wynton owned by J. H. Phillips. (Southern Bitulithic Co., Nashville, Tenn., was erroneously reported last week as having contract.)

Columbus, Ga.—Street Paving.—M. C. Barlow has contract for paving 2000 square yards of sidewalk with cement on the property of the Jordan Company.

Dublin, Ga.—Fertilizer Factory.—J. D. Hawkins of Hawkinsville, Ga., and associates, mentioned September 20 as to organize company for the establishment of fertilizer factory, will erect a brick building 100x200 feet, which will be equipped for a daily capacity of 500 tons.

Entonton, Ga.—Sewerage System.—E. C. Davis, Griffin, Ga., has contract to install sewerage system; referred to August 16.

Elberton, Ga.—Street Paving.—Howard Nelly, Chattanooga, Tenn., has contract at \$2.24 a square yard for paving McIntosh street with brick on four-inch concrete, and at 48 cents a linear foot for laying granite curbing 5x18 inches, previously mentioned.

Hazlehurst, Ga.—Water-works and Electric-light Plant.—City will vote on the issuance of bonds for constructing water-works and purchasing local electric-light plant; recently mentioned. Address The Mayor.

Lagrange, Ga.—Well Drilling.—W. W. Wilson is organizing company for drilling an artesian well to supply the city with water.

Lagrange, Ga.—Cotton Mill.—Reported that the Lagrange Mills will build additional opening room and install blowing equipment for cotton; equipment is 10,000 spindles and 125 looms at present.

Richland, Ga.—Steam Laundry.—E. I. Carter and associates contemplate organizing stock company to operate steam laundry.*

Savannah, Ga.—Excelsior Factory and Novelty Works.—Edw. F. Barrows, 542 East Duffey street, is considering the organization of company to establish excelsior and novelty woodworking plants.*

Savannah, Ga.—Excelsior Factory.—Southern Manufacturing Co. has not decided on the size and character of building reported last week to be erected, replacing plant burned; daily capacity one car (20,000 pounds) of excelsior. J. W. Bridger is general manager.*

Waycross, Ga.—Coal-storage Plant.—The Atlantic Coast Line Railroad will construct, in addition to the car and locomotive shops referred to March 1, a coal-storage plant with a capacity for storing 40,000 tons of coal. The building will be constructed of brick and equipped with electric coal conveyors and electrical machinery for loading and unloading coal cars. About \$65,000 will be expended. E. B. Pleasants, Wilmington, N. C., is chief engineer.

Waycross, Ga.—Street Paving.—Georgia Engineering Co., Augusta, Ga., has contract at \$1.57 a square yard for about 17,000 square yards of vitrified brick pavement, previously mentioned.

KENTUCKY.

Bowling Green, Ky.—Gas Mains.—Bowling Green Gaslight Co. is reported to extend its mains and otherwise improve the service.

Catlettsburg, Ky.—Pottery.—Weaver Pottery Co. is reported to enlarge plant and install new machinery.

Catlettsburg, Ky.—Timber Company.—Patton Timber Co. has been incorporated with \$15,000 capital stock by S. W. Patton, Frank Ross and H. M. Runyan.

Catlettsburg, Ky.—Lumber and Lath Mill.—J. C. Burns of Catlettsburg, G. B. Bartholomew, Samuel Bartholomew and P. M. Scott of Ashland, Ky., have incorporated the Teknink Lumber Co., with \$1000 capital stock.

Corinth, Ky.—Lumber Company.—R. G. Ward, A. V. Caffee and E. Ritchie have incorporated the Corinth Lumber Co. with \$5000 capital stock.

Elizabeth, Ky.—Ice Plant.—F. W. Joplin contemplates the erection of a 10-ton ice plant.

Freestone, Ky.—Heading Mill.—Rockville Heading Co., incorporated with John Thomas, president; W. H. Hopkins, treasurer, and S. E. Elliott, general manager, will manufacture keg heading, having a daily capacity of 4500 sets. About \$4000 will be invested. Buildings have been erected.

Leitchfield, Ky.—Hardware and Furniture. Chartered: People's Hardware & Furniture Co. with \$10,000 capital stock by E. T. Shrewsbury, W. B. McBeath, R. L. Moorman and others.

Louisville, Ky.—Wine Company.—Maurice Ehrmann, Henry Hollman, Jr., and Wm. H. Tumbrink have incorporated the Santa Clara Wine Co. with \$5000 capital stock.

Menefee County, Ky.—Timber Development.—Reported that the Carlisle Real Estate & Timber Co., recently organized at Carlisle, Ky., will develop timber lands in Menefee and Morgan counties.

Monroe, La.—Piano and Organ Factory.—Kallisk Music Co., Ltd., Monroe, La., will erect four-story factory building 57x125 feet after plans by Bavy & Schreiber, St. Louis, Mo. About \$40,000 will be invested.*

Owensboro, Ky.—Grain Company.—Owensboro Grain Co. has been incorporated with \$10,000 capital stock by H. E. O'Bryan of Owensboro, T. R. Hardy, R. W. Richards of Rockport, Ind., and others.

Seabree, Ky.—Land and Lumber Company.—W. N. Brown Land & Lumber Co. has been incorporated with \$30,000 capital stock by W. N. Brown, J. B. Ramsey, J. R. Ramsey and M. L. Walker.

LOUISIANA.

Lake Arthur, La.—Ice, Light and Water Works.—Lake Arthur Ice, Light & Water Works Co., Ltd., is the correct title of company mentioned last week as being organized with \$15,000 capital stock by Robert P. Howell and associates.*

New Orleans, La.—Land Improvement.—J. H. Hinton of New Orleans and A. S. Hinton of Lumberton, Miss., have purchased 42 acres of swamp lands, which will be filled in and improved as residence section.

New Orleans, La.—Rice Mill.—Chartered: Lety Rice Milling Co. with \$100,000 capital stock. Isaac Levy is president; Joseph Trautman, vice-president, and Jake Levy, secretary-treasurer.

Ponchatoula, La.—Electric-light Plant.—Rudolph Fladick has begun the erection of electric-light plant.

Winnfield, La.—Water-works and Sewerage System.—City is considering the installation of water-works and sewerage system. C. M. Bevil is Mayor.

MARYLAND.

Baltimore, Md.—Coffee-roasting Plant.—The C. D. Kenny Company, coffee roasters, 520-524 South Eutaw street, has purchased lot 30x200 feet adjoining its present five-story coffee-roasting plant at 520-524 South Eutaw street for the future extension of its plant.

Baltimore, Md.—Steel Water Tank.—Charles M. Stieff, piano manufacturer, 9 North Liberty street, has awarded contract to McLaughlin Bros., 100 East Lexington street, for the construction of steel water tank of 25,000 gallons capacity on 100-foot brick tower to be erected at its plant.

Baltimore, Md.—Bookbinding Plant.—The A. Rupert Company, 423 West Franklin street, has been incorporated with capital stock of \$5000 to operate bookbinding and printing plant by Alwin Rupert, Otto Krels, Emilie W. Krels, Gottlieb Krels and John A. Wirth.

Baltimore, Md.—Water-works.—The Howard Park Water Co. has been incorporated with capital stock of \$40,000 for the purpose of supplying water to Howard Park, a residential suburb of Baltimore, by Charles E. Hill, Frederick P. Ross and John Philip Hill, all at 55 Central Savings Bank, 3 East Lexington street; Henry M. Henrix and Joseph H. Henck.

Baltimore, Md.—Printing Plant.—A. E. Tolle & Co., printers, 1019 East Biddle street, have purchased lot on Belvedere avenue near Falls road and will erect printing plant on the site, which is 40x160 feet.

Baltimore, Md.—Cotton Mill.—The Consolidated Cotton Duck Co., Continental Building, Baltimore and Calvert streets, has awarded contract to Thomas B. Stanfield & Son, 109 Clay street, for the construction of addition to its mill at Mt. Washington, Md.; one story, 75x100 feet; brick; tin roof; mill construction.

Baltimore, Md.—Machine Shop.—William Hollingsworth, machinist, 227 North Holliday street, has awarded contract to John Cowan, 106 West Madison street, for the construction of an addition to his machine shop at 229 North Holliday street; three stories, 22x48 feet.

Baltimore, Md.—Floor-tile Factory.—The Sanatle Manufacturing Co. has been incorporated with capital of \$5000 to manufacture a patented floor tile by J. Henry Miller, 110 Dover street; A. Henry Krone, 110 Dover street; William Siegmann, 674 West Fayette street; Christian Schroeder and J. Milton Lyell.

Baltimore, Md.—Paving.—The municipal Board of Awards has awarded contracts to the Maryland Pavement Co., 6 East Lexington street, for paving portions of Lombard street and Millington avenue with asphalt blocks at its bid of \$16,240. This work will be done under supervision of Commissioners for Opening Streets, J. Arthur Wickham, president, Hoen Building, Holliday and Lexington streets.

Baltimore, Md.—Steel Tank.—Oppenheim, Oberndorf & Co., 124 West Fayette street,

have awarded contract to McLaughlin Bros., 100 East Lexington street, for the erection of 30,000-gallon-capacity steel tank on their new shirt factory at Pulaski and McHenry streets. The tank will be used in connection with sprinkler system.

Cumberland, Md.—Car Repair Shops.—Jos. E. Owen of Norfolk, Va., will establish plant in South Cumberland for repairing cars; George and C. M. Bowen, Norfolk, Va., engineers in charge.

Highlandtown, Md.—Street Paving.—F. E. Schneider & Co., 332 Law Building, Baltimore, Md., has submitted to the Baltimore County Highways Commission a bid of \$8869 for paving Eighth street with cobblestones. (Referred to September 20.)

Hyattsville, Md.—Electric-light Plant.—Potomac Electric Power Co., Washington, D. C., has secured franchise for the operation of electric-light plant for 19 years. Arrangements will be made for the erection of plant.

MISSISSIPPI.

Aberdeen, Miss.—Cottonseed-oil Mill and Fertilizer Factory.—People's Oil Mill & Fertilizer Co. has begun the erection of plant referred to August 23. It is proposed to erect a seed and hull building, two stories, 50x150 feet, to have 14 covered driveways and sheds on sides and rear, making total dimensions 78x164 feet; the main mill building to be two stories, of brick, 40x207 feet, to be divided into nine compartments separated by 18-inch fire walls. The compartments will be equipped as seed-cleaning-machinery room, lint-room, pressroom, meal-grinding and storage room, fertilizer-mixing room, tool and supply room, boiler and engine room. The power plant will be strictly fireproof, having steel trusses and steel beams supporting a metal roof and floors of concrete; daily capacity to be 60 tons of cottonseed oil. J. J. Wright is general manager.

Batesville, Miss.—Cotton Mill.—Batesville Yarn & Cordage Co., reported last week, has organized with C. B. Vance, president; W. W. Perkins, vice-president; J. C. Price, secretary-treasurer, and Ben N. Love, engineer in charge. It is erecting concrete-block buildings for its plant. All machinery has been purchased. Will operate 1500 spindles, etc., for manufacturing yarns, rope and twine.

Brookhaven, Miss.—Water-works and Electric-light Plant.—City will issue \$15,000 of bonds for improving water-works and electric-light plant, mentioned July 12. Address The Mayor.

Columbia, Miss.—Drug Company.—Chartered: People's Drug Co. with \$15,000 capital stock by L. P. Newson, J. W. Thames and others.

Gulfport, Miss.—Construction Company.—Gulf Construction Co. has incorporated with \$100,000 capital stock to build, equip and operate wharves, piers, docks, railroads, etc. Incorporators: W. W. Hungerford, M. G. May, W. A. S. Wheeler, M. C. Lott and others.

Isola, Miss.—Cotton Gin, etc.—Isola Commercial Co. has been incorporated with \$50,000 capital stock by K. S. Hutson, J. W. Byrd, A. B. Byrd, H. I. Sanders, S. M. Ellis and others.

Meridian, Miss.—Street Paving.—Columbus (Miss.) Concrete Co. has contract for laying concrete sidewalks in the business district; total cost approximating \$11,000.

Meridian, Miss.—Furniture Factory.—B. V. White, W. Meade, E. Cahn, C. A. Witherspoon, C. W. Schamber, C. L. Gray, F. J. Burke, Sam Greenwald and W. A. Gough contemplate organizing company for the establishment of furniture factory. From \$75,000 to \$100,000 will be invested.

Meridian, Miss.—Cotton Compress.—Citizens' Compress Co. has adopted plans for proposed cotton compress, and construction work will begin at once. Company was mentioned last week as having purchased site on which to locate.

Moss Point, Miss.—Sidewalk Paving.—City will construct about 3000 yards of concrete sidewalks, and wants to correspond with contractors relative to doing the work. A. H. Smith is Mayor.*

New Albany, Miss.—Stave Factory.—C. H. Wright Stave Co., Inc., C. H. Wright, general manager, operating plant at Hollow Rock, Tenn., will remove same to New Albany. Finished tight-barrel staves are manufactured; daily capacity one carload. Only a limited amount of new machinery will be purchased; office, 1014 First National Bank Building, Nashville, Tenn. (Referred to September 13.)

Orange Grove, Miss.—Brick and Tile Works.—Orange Grove Brick & Tile Co. has been incorporated with \$25,000 capital stock by T. M. Favre, U. T. Cassibry, Dan Nichols and others.

Pontotoc, Miss.—Fruit Orchard.—C. M. Bigham, S. T. Pitts, C. E. Franklin, T. J. Robertson and W. A. Boone have incorporated the Pontotoc Highland Orchard Co. with \$10,000 capital stock.

Shivers, Miss.—Lumber Plant.—Commercial Lumber Co., D. L. O'Neal, manager, McHenry, Miss., has purchased the interest of the Draughan & Cahal Lumber Co. with about 10,000,000 feet virgin yellow pine, and has begun the operation of plant.

MISSOURI.

Carthage, Mo.—Mining.—Siegfried Mining Co. has been incorporated with \$150,000 capital stock. F. B. Fretter is president, and E. C. Carter, treasurer.

Carthage, Mo.—Stone and Construction Company.—Chartered: Missouri Stone & Construction Co. with \$60,000 capital stock by B. W. Briggs, H. E. Wright, M. W. Powers and others.

Farmington, Mo.—Shirt Factory.—Ely Walker Dry Goods Co. of St. Louis, Mo., is reported to establish shirt factory.

Franklin Junction (P. O. Franklin), Mo.—Reservoir.—Marshall Rusk, Pilot Grove, Mo., has contract for the construction of reservoir for the Missouri, Kansas & Texas Railway.

Hannibal, Mo.—Refinery.—National Refining Co. has been incorporated with \$20,000 capital stock by F. L. Fretter, E. C. Carter, A. H. Gardner and others.

Jasper County, Mo.—Lead and Zinc Mines.—Mammoth Zinc and Lead Works has been incorporated with \$75,000 capital stock by Basil Doerhoefer, J. T. O'Neal, Merit O'Neal, J. E. Wright, J. T. O'Neal, Jr., and others, all of Louisville, Ky., to develop lead and zinc deposits recently discovered in Jasper county.

Kansas City, Mo.—Public Improvements.—City is reported as to vote on the issuance of \$250,000 park and boulevard, \$25,000 fire-department-improvement and \$200,000 hospital bonds. Address The Mayor.

Kansas City, Mo.—Bridge.—Forrester-Swenson Construction Co., 205 Postal Building, Kansas City, Mo., has contract at \$14,500 for constructing a rubble-stone arch bridge on the Blue Ridge road.

Kansas City, Mo.—Manufacturing.—Incorporated: Kansas City Utility Manufacturing Co., with \$25,000 capital stock, by Thomas E. Sutton, E. Schmidt and others.

Sedalia, Mo.—Woolen Mill.—Sedalia Woolen Mills is reported as to add carding and weaving machinery.

Sedalia, Mo.—Coach and Paint Shop.—It is reported that the Missouri, Kansas & Texas Railroad Co. will erect a building 213x186 feet, replacing coach and paint shop recently reported burned. R. M. Garrett is resident engineer.

St. Charles, Mo.—Sewerage System.—W. F. Hall, Clinton, Mo., has contract at \$68,800 for the construction of sewerage system mentioned August 23.

St. Louis, Mo.—Metal Works.—Eagle Metal Works Co. has been incorporated with \$5000 capital stock by John Mesker, Charles A. Knox and William Slavin.

St. Louis, Mo.—Bakery.—Manewal Bread Co., reported incorporated September 20 with \$15,000 capital stock, will operate bakery with a daily capacity of 15,000 loaves of bread. No building will be erected; office, 107-109 South 8th street.

St. Louis, Mo.—Stove Foundry.—Henry Landragan, Edward M. Lucas and John F. Hasted have incorporated the Never Break Range Co. with \$125,000 capital stock.

St. Louis, Mo.—Construction Company.—Ridpath & Hogan Construction Co. has been incorporated with \$25,000 capital stock by Wm. J. Hogan, R. J. Ridpath, Robert W. Hall and others.

St. Louis, Mo.—Ice Plant.—Polar Wave Ice & Fuel Co. has purchased site with a frontage of 151 feet on which to erect ice plant.

St. Louis, Mo.—Paint Factory.—Central Paint & Supply Co. has been incorporated with \$25,000 capital stock by Ethridge W. Hayes, M. J. Hurley and F. A. Johann.

St. Louis, Mo.—Brass Foundry.—St. Louis Brass Manufacturing Co. will remodel the Pickwick Theater as factory building and warehouse. Five additional stories will be erected. About \$25,000 will be invested.

NORTH CAROLINA.

Ashboro, N. C.—Woodworking.—Ashboro Wheelbarrow & Manufacturing Co. will install machinery for manufacturing single-trees, pick handles, axe handles, etc.*

Ashboro, N. C.—Steam Laundry.—M. B. Morgan is arranging for the establishment of steam laundry.

Greenville, N. C.—Buggy Factory.—John Flanagan Buggy Co. has purchased site on

which it is proposed to erect a three-story brick factory building 80x125 feet.

Kannapolis (not a postoffice), N. C.—Cotton Mills.—James W. Cannon and associates of Concord, N. C., have awarded contract to T. C. Thompson & Bro. of Birmingham, Ala., for erection of the buildings for the two cotton mills recently mentioned. It is reported the mills will be equipped with 50,000 spindles and 1300 looms for manufacturing yarns and sheeting. The building contract is understood to amount to about \$350,000 and to include mill buildings, warehouses and 200 operatives' cottages.

High Point, N. C.—Desk Factory.—Myrtle Desk Co. has let contract for the erection of three-story addition, 50x80 feet, which will be equipped for increasing the capacity.

Louisburg, N. C.—Bed-comfort Factory.—J. W. Hollingsworth will establish plant for the manufacture of bed comforts.*

Murphy, N. C.—Water-works and Sewerage System.—City has not as yet engaged engineer to prepare plans and specifications and make surveys for the construction of water-works and sewerage system for which \$40,000 in bonds was mentioned September 20 as voted. Proposals for pipe, cast iron and fittings, fire hose, sewer pipe, etc., will be received when specifications are completed. U. W. Bell is Mayor.

Newbern, N. C.—Fertilizer Factory and Cottonseed-oil Mill.—Craven Chemical Co. has been incorporated with \$100,000 capital stock to establish fertilizer factory and cottonseed-oil mill. About \$25,000 will be invested in buildings and equipment. C. E. Fox is manager.*

Rockingham, N. C.—Cotton Mill.—Roberdel Manufacturing Co., reported last week, is erecting addition 72x100 feet to contain 2500 spindles and 120 looms, previously announced as to be added. All contracts have been awarded.

Washington, N. C.—Engine Works.—Remington Oil Engine Co., 41 Park Row, New York, N. Y., manufacturer of kerosene-oil engines, mentioned last week as investigating with a view to establishing plant, has not decided on a location as yet. Wolcott Remington, Stamford, Conn., is president; F. A. Rumpf, vice-president and treasurer. John B. Wheaton, Jr., Norfolk, Va., is Southern agent.

Wilson, N. C.—Crushing Plant.—R. J. Grantham will install crushing plant and engage in paving, granolithic work, etc.*

SOUTH CAROLINA.

Beaufort, S. C.—Phosphate Mines.—The Virginia-Carolina Chemical Co., S. D. Crenshaw, secretary, Richmond, Va., states there is no truth in the report mentioned September 20 that it is making arrangements for the development of phosphate deposits at Oak Point near Beaufort.

Calhoun Falls, S. C.—Cotton Mill.—The Calhoun Mills will erect main building three stories high, 357.4x131 feet; boiler-room for heating and slashers; buildings of brick, slow-burning construction throughout; capacity 25,600 spindles and 740 looms, of which 15,360 spindles and 444 looms will be installed at first; 1000 horsepower to be required for full plant, using the electrical drive. Four-year sheeting will be the product. Contracts for machinery, buildings, etc., have been awarded. J. E. Shirrine of Greenville, S. C., is the mill architect and engineer in charge; W. F. Cox, Anderson, S. C., president of the company. (This mill referred to last week.)

Camden, S. C.—Power-house and Ice Plant.—Camden Water, Light & Ice Co. will erect power-house and ice plant. A building 227x96 feet will be erected; P. M. Wackerhagen, Racine, Wis., architect. C. E. Boynton is superintendent. (Reported last week to rebuild power-house recently burned.)

Charleston, S. C.—Chemical Works.—Chartered: Germofert Manufacturing Co., with \$200,000 capital stock. Dr. David G. Dwight is president and treasurer.

Dillon, S. C.—Drug Company.—Chartered: McLaurin Drug Co., with \$5000 capital stock. J. H. McLaurin is president, secretary and treasurer, and R. P. Schofield, vice-president.

Greenville, S. C.—Lumber Company.—Chartered: West End Lumber Co., with \$5000 capital stock. W. S. Pack is president; T. O. Lawton, Jr., secretary-treasurer.

Laurens, S. C.—Furniture Company.—Caine & Pitts Furniture Co. has been incorporated with \$5000 capital stock by W. P. Caine, G. L. Pitts, B. K. Humphries and J. M. Hudgens.

Lugoff, S. C.—Sawmill, Lath Mill and Dry-kiln.—Lugoff Hardwood Co., R. R. Team, manager, will operate sawmill for the manufacture of hardwoods, lath mill, etc. A corrugated iron building 50x50 feet and dry-kiln will be erected. (Referred to last week.)*

Rock Hill, S. C.—Telephone System.—Rock

Hill Telephone Co., Paul Workman, president, is reported as to improve and extend system.

Rock Hill, S. C.—Electric-light Plant.—City will install an electric-light system—steam plant; population 9000. (Referred to August 16.) J. B. Johnson is chairman of committee.*

Saluda, S. C.—Supplies.—Saluda Supply Co., reported incorporated August 9 with \$10,000 capital stock, has completed organization with G. C. Wheeler, president and treasurer, and R. A. Crawford, general manager.

TENNESSEE.

Chattanooga, Tenn.—Electrical Engineers. Connally-McIlheran Electrical Co. has been incorporated with \$10,000 capital stock by W. B. Connally of Cleveland, Ohio; W. C. McIlheran of Birmingham, Ala.; W. C. McAfee of Atlanta, Ga., and H. A. Clark of Chattanooga, Tenn., to do consulting and constructing engineering, sell leading electrical machinery and supplies of all kinds and do repair work.

Ducktown, Tenn.—Copper Mining.—E. Breckenridge Moon & Co. of Asheville, N. C., referred to last week, propose developing copper deposits found on lands recently acquired near Ducktown, both in Tennessee and Georgia. They contemplate organizing stock companies in the near future.

Elk Valley, Tenn.—Coal Mines.—Elk Valley Coal Mining Co. has increased capital stock from \$50,000 to \$125,000.

Memphis, Tenn.—Water-works Improvements.—City is reported to make improvements to water-works system, for which \$300,000 of bonds were recently issued. Wirt F. Wells is president of the Memphis Water Commission.

Oliver Springs, Tenn.—Coal Mines.—Engle Coal Co., it is reported, has begun the development of coal properties.

TEXAS.

Atlanta, Texas.—Lumber Mill.—Atlanta Lumber Mills Co. has been incorporated with \$25,000 capital stock by Russ Daniel, R. K. Coke and W. H. Arnold.

Beaumont, Texas.—Wharves, Docks, etc.—F. H. Wilson has applied for 20-year franchise on river-front property, on which it is proposed to construct docks, wharves, etc. Mr. Wilson is organizing a transportation company and expects to operate a vessel 140 feet long and drawing 10 feet of water.

Bryan, Texas.—Lumber Company.—Howell Lumber Co. has been incorporated with \$20,000 capital stock by J. W. Howell, J. Webb Howell and H. O. Boatright.

Doublehorn, Texas.—Irrigation Plant.—Joshua Klein of Marble Falls, Texas, is installing a \$3000 plant to irrigate 200 acres of river land near Doublehorn.

Galveston, Texas.—Cement-block Factory.—Southern Hydraulic Stone Co., reported incorporated September 20 with \$15,000 capital stock, will manufacture cement blocks. Stone sheds 20x135 feet will be erected. Equipment has been purchased. A. R. Crossley, Galveston, Texas, is engineer in charge.

Granbury, Texas.—Cottonseed-oil Mill.—The establishment of a cottonseed-oil mill to be operated on the co-operative plan is being considered, and the Hood County Farmers' Union is promoting the enterprise. It is proposed to invest about \$30,000.

Greenville, Texas.—Creosoting Plant.—It is reported that the Missouri, Kansas & Texas Railway is arranging to rebuild its plant for treating ties, replacing the present zinc treatment with the creosoting process. The plant to be erected, it is stated, will be equipped for treating ties and timbers for bridges, culverts, etc., having an annual capacity of 2,500,000. Address Superintendent Whitmore.

Harrold, Texas.—Cotton Gin.—L. J. Massie, J. S. Blanton and John Brownlee have incorporated the Harrold Gin Co. with \$5000 capital stock.

Houston, Texas.—Bottling Works.—Aqua Pura Bottling Co. has increased capital stock from \$20,000 to \$30,000.

Houston, Texas.—Lumber Company.—T. W. Ford, E. Miller, T. C. Ford, D. E. Miller and H. H. Ford have incorporated the Long Leaf Lumber Co. with \$25,000 capital stock.

Itasca, Texas.—Lumber Company.—F. M. Files, H. E. Chiles, G. W. Birchfield, J. R. Griffin and C. L. Martin have incorporated the Itasca Lumber Co. with \$20,000 capital stock.

Laporte, Texas.—Water-works and Electric-light Plant.—The Fairbanks Company has made a proposition to the town to install water-works and electric-light plant, consisting of a 60-foot standpipe 12 feet in diameter, bore a 10-inch artesian well with a capacity of 600,000 gallons daily, lay 10,000 feet of four-inch water mains, a 500-light electric plant

with 50-horse-power gas engine. It is very probable the proposition will be accepted. A. N. McKay is Mayor. (Referred to September 20.)

La Ward, Texas.—Land Improvement.—Chartered: La Ward Townsite Co., with \$50,000 capital stock, by Sam Lazarus, R. E. Ward, A. R. Ward and Lafayette Ward.

Llano, Texas.—Hardware.—J. D. Atkins, E. H. Qualls and J. C. Stribling have incorporated the Atkins-Qualls Hardware Co. with \$10,000 capital stock.

Marshall, Texas.—Natural-gas Mains.—Marshall Gas Co. has been incorporated with \$300,000 capital stock to furnish the city with natural gas, to be conveyed by a pipe line 26 miles to Marshall. S. S. Hunter is president; John D. Wilkinson, vice-president, and W. B. McCormick, secretary. (S. S. Hunter and W. B. McCormick were mentioned September 20 as having secured franchise for supplying city with gas.)

Mineola, Texas.—Cotton Compress.—Loeb Compress Co., reported incorporated September 13 with \$30,000 capital stock, will take over and operate the plant of the Mineola Compress Co. It is proposed to expend about \$15,000 in improvements. Herman Loeb, Shreveport, La., is president.

New Braunfels, Texas.—Cotton Gin.—New Braunfels Ginney has been incorporated with \$5000 capital stock by Eugene Dittmar, Albert F. Vogel and Otto L. Vogel.

New Caney, Texas.—Lumber Company.—Chartered: Hult-Blain Lumber Co., with \$25,000 capital stock, by L. N. Hult, J. S. Blain and W. S. Blain.

Pecos, Texas.—Zinc Mines.—W. W. Camp, Judson Heard, Ben Kraus, Charles Schilling, T. J. Hefner and associates have incorporated the Kraus Zinc Mining Co. with \$50,000 capital stock.

Richmond, Texas.—Sawmill.—M. C. Sigler and C. Sigler will erect sawmill with a daily capacity of 10,000 feet. A building 40x60 feet will be erected.

Robert Lee, Texas.—Hardware.—Chartered: Lane Hardware Co., with \$5000 capital stock, by A. D. Lane, H. H. Pearce and A. J. Mc-Lendon.

Valentine, Texas.—Macaroni-wheat Cultivation, Flour Mill and Macaroni Factory.—Reported that Grant Robinson of St. Paul, Minn., has purchased 60,000 acres of prairie land and will plant the entire acreage in macaroni wheat, 500 acres to be planted at once. It is stated that V. V. Veach, proprietor City Roller Mills, Newcastle, Pa., contemplates establishing flour mill and macaroni factory.

Waco, Texas.—Land Improvement.—Incorporated: Rotan Townsite Co., with \$10,000 capital stock, by C. Hamilton, E. Rotan of Waco, C. H. Sharman of Stamford, Texas, and others.

VIRGINIA.

Abingdon, Va.—Flour Mill and Grain Elevator.—R. P. Copenhaver and R. B. Vance have purchased site on which to erect a 250-barrel flour mill. Contract has been let for the erection of building and for the machinery. It is also proposed to construct grain elevator.

Bland, Va.—Mineral Lands.—Bland Iron & Coal Co. is the correct title of company reported last week under Wytheville, Va., with Samuel W. Williams, president; Samuel W. Williams, Jr., vice-president, both of Wytheville, Va.; Arthur R. Porterfield, secretary, and Fulton Kegley, treasurer, both of Bland. It is proposed to develop immense mineral deposits in Bland county.

Fredericksburg, Va.—Trousers Factory.—Washington Woolen Mills, John C. Melville, general manager, will erect building, 30x120 feet, and equip for the manufacture of trousers. About \$5000 will be invested. A. M. Garner is architect.

Howardsville, Va.—Toll Bridge.—Howardsville Toll Bridge Co., recently organized to build a toll bridge across the James river, has completed organization with F. H. McCulloch, president; Joseph K. Irvine, secretary, both of Howardsville, and F. B. Nolting of Richmond, Va., treasurer. Bridge contractors are invited to correspond with R. C. Blackford, 2930 Law Building, Lynchburg, Va.*

Lynchburg, Va.—Steel Plant.—James H. Wynkoop of New York, N. Y., reported September 13 as considering the location of plant to manufacture structural steel, has made a proposition to furnish \$150,000 provided the citizens will furnish an additional \$150,000. If this plan is agreed upon the plant will be established.

Marion, Va.—Table Factory.—Virginia Table Works has been incorporated with \$50,000 capital stock for the manufacture of tables. It is proposed to erect a machinery room, two stories, 60x120 feet; finishing room,

two stories, 50x100 feet, and dry-kiln, 28x100 feet; plant to be operated by electric power furnished by the Marion Light & Power Co. W. L. Lincoln is president; B. F. Buchanan, vice-president, and L. P. Collins, secretary-treasurer.*

Newport News, Va.—Lumber Company.—Chartered: Ellsworth Lumber Co., with an authorized capital stock of \$50,000. L. H. Creasy is president; W. R. Perkins, vice-president, and George E. Wood, secretary-treasurer.

Norfolk, Va.—Construction Company.—Chartered: American Construction Co. with an authorized capital stock of \$50,000. William A. Young is president; P. W. Ruth, Jr., vice-president, and J. S. Hall, secretary-treasurer.

Norfolk, Va.—Incorporated: Hannan-Smith Company with an authorized capital stock of \$25,000. Charles K. Hannan of Norfolk is president; B. P. Hannan of Philadelphia, Pa., vice-president, and William G. Smith of Cape Charles, Va., secretary and general manager.

Pearlsburg, Va.—Timber Development.—Reported that Norman E. Knepper and Isaiah Good of Somerset, Pa., have purchased 4500 acres of timber land in Giles and Bland counties and will arrange at once for its development.

Phoenix, Va.—Ice Plant.—Phoenix Ice & Coal Co. has been incorporated with \$50,000 capital stock to erect 25-ton ice plant. Site has been secured on which to erect building and contract for the machinery will be let at once. Hunter R. Booker is president, and Eldridge S. Jones, secretary-treasurer, both of Hampton, Va.

Portsmouth, Va.—Street Paving.—W. A. Young, Norfolk, Va., is lowest bidder and will probably be awarded contract for paving Middle, North and Lincoln streets.

Raven, Va.—Coal Mines.—Miners' Mutual Coal Co. has been incorporated with \$50,000 authorized capital stock; B. L. Fink of Odd, W. Va., president, and A. B. Shannon of Pineville, W. Va., secretary.

Richmond, Va.—Wheel Factory.—Reported that the Virginia & North Carolina Wheel Co. will make improvements to plant, doubling the present capacity.

Richmond, Va.—Electric-light Plant.—City is considering the installation of electric-light plant. It is estimated that about \$300,000 will be required for the complete equipment of plant. W. E. Cuthaw is City Engineer. (Previously referred to.)

Roanoke, Va.—Iron and Brass-bed Factory.—L. Blair contemplates establishing plant to make iron and brass beds.*

Sewell's Point, Va.—Laundry.—Jamestown Laundry Co. has been incorporated with \$25,000 capital stock by Frank Phillips of Norfolk, Va., and others for the establishment of laundry on the exposition grounds with a capacity for handling 72,000 pieces of material daily.

Snowville, Va.—Paint Factory.—W. T. Stigleman proposes organizing company for the establishment of factory to manufacture paint from red oxide of iron.*

The Plains, Va.—Steam Laundry.—Chartered: The Plains Steam Laundry, with R. S. Cochran, president; N. L. Turner, vice-president, and J. W. Slaughter, secretary-treasurer. A frame building will be erected. About \$4000 will be invested.*

Victoria, Va. (not a postoffice).—Land Improvement.—Chartered: Victoria Land Co. with an authorized capital stock of \$50,000. D. E. Evans of Chicago, Ill., is president; O. W. Ludlow of Chicago, Ill., secretary-treasurer, and J. I. Banks of Norfolk, Va., general manager.

Wise County, Va.—Timber Land.—William Winfrey of Medina, Ohio, it is reported, has purchased 3000 acres of timber land in Wise county and will arrange at once for its development.

WEST VIRGINIA.

Central City, W. Va.—Lumber Company.—Chartered: C. M. Calloway Lumber Co. with \$25,000 capital stock by S. E. Calloway, L. F. Queensberry of Central City, C. M. Calloway, L. C. Calloway of Beckley, W. Va., and E. M. Watts of Huntington, W. Va.

Charleston, W. Va.—Bridge Construction.—City has accepted the proposition of the Kanawha Valley Traction Co. to pay one-half the cost of the construction of proposed bridge across the Elk river, replacing the old Keystone structure. Plans for same are now being prepared.

Charleston, W. Va.—Veneer Factory.—National Veneer Co. is considering rebuilding plant reported burned August 16.

Fairmont, W. Va.—Coal Mines and Coke Ovens.—Hutchinson Fuel & Supply Co. of Fairmont and Charleston, W. Va., has been chartered with \$300,000 capital stock by M. L.

Hutchinson, C. E. Hutchinson of Fairmont, V. L. Highlands, S. C. Denham and M. G. Sperry of Clarksburg, W. Va.

Keyser, W. Va.—Telephone System.—Mineral County Division of the West Virginia Mutual Telephone Association has been organized with J. W. Carskadon, president, and J. W. Wagoner, secretary-treasurer. It is proposed to operate a line from Keyser to Petersburg, where it will connect with systems of Pendleton and Hardy counties.

Logan, W. Va.—Publishing.—Logan Democrat Co. has been incorporated with \$5000 capital stock for the publication of the Logan Democrat. H. C. Ragland is president; W. R. Lilly, secretary-treasurer, and J. Smith, manager.

Moundsville, W. Va.—Coal Mines.—The Bituminous Coal Co. of America has secured 1200 acres of coal lands at Moundsville which it proposes to develop. A plant will be installed at an estimated cost of \$90,000 with daily capacity of 1500 tons. The construction will be in charge of a committee chosen from the directorate, which will probably be appointed within a few days. No construction engineer has been decided on, and estimates will probably be submitted to contractors for bids the latter part of October or first of November. Supplies required will probably be general mining equipment. William Goodrich is president; William G. Smith, vice-president; H. L. Smith, secretary-treasurer; main office, 299 Broadway, New York. (Reference was made to this project June 21 and September 13.)

Parkersburg, W. Va.—Veneer Factory.—Chartered: West Virginia Veneer Door Co. with \$100,000 capital stock by J. H. P. Smith, Thomas Shaw, W. W. Watterson, C. T. Hiteschew and W. J. Davidson, to manufacture veneer doors, sash, interior work of all kinds and building supplies.

Parkersburg, W. Va.—Shoe Factory.—Parkersburg Shoe Co. has been incorporated with \$100,000 capital stock by C. D. Baumgardner, H. H. Dils, Edward Neely and W. N. Miller.

Riverside (P. O. Wheeling), W. Va.—Electrical Equipment.—Electrical Railway Equipment Co. of Cincinnati, Ohio, has purchased three acres of ground on which it is stated a building 25x250 feet will be erected and equipped for the manufacture of electrical equipment, such as iron and steel tubular poles, line material and motor parts. W. B. Stout is general superintendent.

Standard, W. Va.—Coal Mines.—Standard Split & Gas Coal Co. has increased capital stock from \$50,000 to \$100,000.*

Webster Springs, W. Va.—Sawmill.—Camden Lumber Co., incorporated to erect and operate hand-saw mill of 30,000 feet daily capacity, has a capital stock of \$50,000. About \$15,000 will be expended in machinery and the balance in timber, etc. Aaron Johnston is vice-president and general manager. (Mentioned September 20.)

Welch, W. Va.—Coal Mines.—Dixon-Pocahontas Fuel Co. has begun the development of 3000 acres of coal land near Welch. J. P. Davis is superintendent.

INDIAN TERRITORY.

Chickasha, I. T.—Street Paving.—Man Cement Co. of Chickasha, I. T., and Wichita, Kan., has contract at 1 1/2 cents a square foot for laying cement sidewalks five feet wide on each side of 7th street for a distance of 13 blocks.

Mannville, I. T.—Oil and Gas Wells.—Mannville Industrial Oil & Gas Co. has been incorporated with \$100,000 capital stock. John T. Randall is president; E. V. Wolverton, vice-president, and H. E. Crider, secretary-treasurer.

Sapulpa, I. T.—Electric-light Plant.—Sapulpa Light & Power Co. has been organized with Ed C. Reynolds, president, and J. A. Boyd, secretary-treasurer, to operate electric-light plant for which Mr. Boyd was mentioned September 20 as receiving franchise. Size of building has not been determined, but it is proposed to equip for a capacity of 125 kilowatts. About \$20,000 will be invested; neither architect nor engineer selected.

OKLAHOMA TERRITORY.

Alfne, O. T.—Cotton Gin, etc.—J. E. Allen, Box 187, will erect a building 30x42 feet, 36 feet high, of frame covered with corrugated iron, and equip for ginning and baling seed cotton, having a daily capacity of 17 bales. T. C. Elliott is engineer in charge. (Referred to August 16.)

Cleveland, O. T.—Water-works.—Cleveland Water-Works Co. has been incorporated with \$10,000 capital stock by Fred Cribley of Cleveland, C. A. Cooper and J. E. Shell of Corapolis, Pa.

Fountain City (not a postoffice), O. T.—Land Improvement.—Fountain City Townsite

& Improvement Co., reported incorporated last week with \$25,000 capital stock, has completed organization with G. F. H. Barber of Lawton, O. T., president; C. H. Keeton of Williamsburg, Ky., vice-president; D. T. Chestnut of Corbin, Ky., secretary, and W. R. Denham of Williamsburg, Ky., treasurer. It is proposed to develop a townsite at Fountain City.

Guthrie, O. T.—Cannery.—Capital Canning Co., reported incorporated September 20 with \$15,000 capital stock, will erect a three-story building 50x120 feet. J. W. McNeal is president; M. L. West, secretary, and Wm. Chesterfield, manager.*

Keystone, O. T.—Cotton Gin.—Chartered: Farmers' Union Gin Co., with \$20,000 capital stock, by J. M. McCollum, L. L. Christ, Thos. Duck and Ed Lebo.

Oklahoma City, O. T.—Lithographing Plant. W. T. Wilson Lithographing Co. of Logansport, Ind., is reported as considering the establishment of plant at Oklahoma City.

Oklahoma City, O. T.—Lumber Company.—Pine Belt Lumber Co. has been incorporated with \$100,000 capital stock by John E. James, Homer B. Crawford of Oklahoma City, Chas. M. McFaris and Frederick A. Goodrich of St. Louis, Mo.

Shawnee, O. T.—Sewerage System.—City will vote on the issuance of bonds for the construction of complete sanitary-sewer system. Address The Mayor.

Tecumseh, O. T.—Water-works.—O'Neil Engineering Co., M. Griffin O'Neil, president, Dallas, Texas, has contract at \$50,949 for the construction of proposed water-works. It is stated that this company has been granted an electric-light franchise. City will also let contract for well about 2500 feet deep.

BURNED.

Baltimore, Md.—Plant of Monumental Manufacturing Co., manufacturers of tin specialties, at 220-242 Grindall street; loss about \$10,000.

Barton, Md.—Logsdon's Opera-house; loss \$9000.

Enfield, N. C.—J. B. Dunn's sawmill.

Fort Smith, Ark.—Lane-White Lumber Co.'s plant; loss \$140,000.

Greenfield, Ark.—Greenfield Lumber Co.'s plant; loss \$20,000.

Huntington, W. Va.—The plant of the Huntington Dispatch; Floyd Chapman, manager.

Jellico, Tenn.—The following buildings were badly damaged by explosion: The warehouses of the Armour Packing Co., Jung Brewing Co., Pinnacle Brewing Co., Standard Oil Co. and the oil tank and warehouse of the Kentucky Consumers' Oil Co.

Jonesboro, Ark.—Cook Manufacturing Co.'s plant; loss \$5000.

Macon, Ga.—Central Manufacturing Co.'s planing mill; loss \$60,000.

Marshall, Texas.—T. S. Sloan's sawmill.

Mexia, Texas.—Munger Oil & Cotton Co.'s cotton gin; loss \$5000.

Nashville, Tenn.—Liberman, Loveman & O'Brien's dry-kiln, three drying sheds and 5,000,000 feet of oak and poplar lumber; loss \$150,000.

Newbern, N. C.—North Carolina Stave Co.'s plant; loss \$25,000.

Pullin, Texas.—W. A. Knox's cotton gin and seedhouse.

Savannah, Ga.—Savannah Theater Co.'s theater; loss \$75,000. Albert Weis of New York, N. Y., is president.

Sedalia, Mo.—Missouri, Kansas & Texas Railroad Co.'s coach and paint shop. R. M. Garrett is resident engineer.

Stanberry, Mo.—Normal School building; loss \$75,000. Address Prof. Allen Moore.

Texarkana, Ark.—Arkansas & Texas Grain Co.'s warehouse; loss \$5000.

The Nielson Motor Works.

Stationary and marine gas engines in small sizes are practically universally used. Their design and construction has therefore attracted the attention of inventors and manufacturers seeking to perfect power machines in this class. The Nielson Motor Works of 711 Moss street, St. Joseph, Mo., is developing an extensive demand for its machines. The company builds a line of gas engines for stationary and marine use in small sizes—one, two and three cylinder. These designs have shown their efficiency in many installations and are being demanded by conservative purchasers. Mr. H. P. Nielson is president of the Nielson Motor Works, and handles modern automobiles, including the Stoddard-Dayton motor car, which he states has some advantageous factors not seen in other machines of its kind. An attractive pamphlet of Nielson offerings is sent to applicants.

BUILDING NOTES.

* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Ahlene, Texas.—Cotton Warehouse.—Farmers' Warehouse Association, reported incorporated September 13, has let contract to Ed S. Kirby for the erection of warehouse 50x140 feet of corrugated iron; cost \$1500.

Adrian, Ga.—School Building.—G. L. Adams, Alley, Ga., has contract to erect school building; two stories, 64x67 feet; brick and frame; cost \$9000.

Albany, Ga.—Business Building.—Cruger & Pace have purchased site on which to erect building. Size and character has not been determined.

Alexandria, La.—Church.—Third Street Methodist Church is considering the erection of a \$25,000 brick edifice. H. H. White is chairman of board of trustees.

Antlers, I. T.—School Building.—City will issue \$8000 of bonds for the erection of school building. Address The Mayor.

Asheville, N. C.—Building.—J. E. McPherson has contract to erect building for the estate of Thos. D. Johnston, for which R. D. Smith prepared the plans; three stories, 75x100 feet; ordinary brick construction; cost \$30,000. One heavy freight elevator will be installed.

Baltimore, Md.—Carhouse.—Referring to carhouse to be erected at corner Edmondson avenue and Calverton road by the United Railways & Electric Co., Wm. A. House, general manager, Continental Building, Baltimore and Calvert streets, the following contractors are estimating on the construction: Brady & Watters, 532 St. Paul street; George A. Fuller Company, American Building, Baltimore and South streets; Willis & Mason, 324 West Biddle street; Charles L. Stockhausen, National Marine Bank Building, Gay and Water streets; J. H. Miller, 110 Dover street; E. D. Preston, Gunther Building, St. Paul and Fayette streets; Baltimore Ferro-Concrete Construction Co., Glenn Building, St. Paul near Fayette street; Trussed Steel Concrete Co., Wilson Building, 301 North Charles street, and Henry S. Rippel, 7 Clay street; one story, 220x290 feet; reinforced concrete construction throughout; alternate estimate on brick construction; Simonson & Pietsch, architects, American Building, Baltimore and South streets.

Baltimore, Md.—Dwelling.—Wm. R. Moore, 717 West Lafayette avenue, has commissioned Beecher, Fritz & Gregg, architects, 11 East Pleasant street, to prepare plans for dwelling to be erected at Roland Park; 2½ stories, 50x40 feet; frame construction; electric wiring and fixtures; sanitary plumbing; steam-heating system; cost about \$15,000.

Baltimore, Md.—Warehouse.—A. C. Meyer, 661 West Baltimore street, has awarded contract to M. C. Davis, 5 Hopkins place, for the construction of warehouse at 118 West Lombard street; four stories, 26x80 feet; brick with stone trimmings; steel beams; slag roof; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; heating system; elevator.

Baltimore, Md.—Veterinary Hospital.—Lawrence Hickman, 106 North High street, has awarded contract to Charles L. Stockhausen, National Marine Bank Building, Gay and Water streets, for the construction of veterinary hospital on High near Lexington street; two stories, 30x136 feet; brick with stone trimmings; galvanized-iron cornice; steel rolling doors; electric wiring and fixtures; sanitary plumbing.

Baltimore, Md.—Church.—The Baltimore City Missionary Society of the Methodist Episcopal Church, Bible House, 10 East Fayette street, has awarded contract to James Brooks, Postoffice Station E, for the construction of church building on Park Heights avenue near Shirley lane; one story, 64x65 feet; frame construction with stucco exterior; slate roof; heating system; J. C. Spedden, architect, 509 South Paca street.

Baltimore, Md.—Store and Office Building.—The Edwin F. Abell estate, Sun Building, Calvert and Saratoga streets, has awarded contract to J. Wesley Gray, 113 South Eutaw street, for reconstruction of building at 202 North Calvert street into store and office building. Electric wiring and fixtures, sanitary plumbing and steam-heating system will be installed; Jacob F. Gerwig, architect, Hoffman Building, 11 East Lexington street.

Baltimore, Md.—Truckhouse.—The Board of Awards, City Hall, will receive proposals until October 3 for erecting new truckhouse at 8 and 10 South Gay street; two stories, 48.4x100.4 feet; ornamental terra-cotta exterior; structural iron and steel; electric

wiring and fixtures; sanitary plumbing; heating system. Plans and specifications may be obtained from Edward D. Preston, Inspector of Buildings, City Hall. James F. Parley, 207 North street; Thomas L. Jones & Son, 410 West Saratoga street; M. C. Davis, 5 Hopkins place; Frederick Decker & Son, 1209 East Biddle street, and C. L. Stockhausen, National Marine Bank Building, Gay and Water streets, are estimating on construction.

Baltimore, Md.—Store Building.—Bernheimer Bros., Lexington near Eutaw street, will erect an addition to their store on West Fayette street and extending through to 311, 313 and 315 Marion street; Charles E. Cassell & Son, architects, Law Building, 225 Courtland street.

Baltimore, Md.—Dwellings.—Wm. J. Clendenin, 1402 East North avenue, will erect five three-story brick dwellings, 15x40 feet, on North avenue, near Regester street, to cost about \$14,000.

Baltimore, Md.—Garage.—Francis A. White, 15 North street, has awarded contract to Walter E. Burnham, Union Trust Building, Charles and Fayette streets, for construction of garage in rear of 1402 and 1404 Guilford avenue.

Baltimore, Md.—Dwellings.—A. F. Perot, builder, 510 Forest road, Forest Park, will erect two-story brick dwellings on Appleton near Presbury street, to cost about \$35,000.

Baltimore, Md.—Warehouse.—The State Board of Public Works, Gov. Edwin Warfield, Comptroller Gordon T. Atkinson and Treasurer Murray Vandiver, have commissioned Baldwin & Pennington, architects, Professional Building, 330 North Charles street, to prepare plans and specifications for State tobacco warehouse to be erected on lot bounded by Conway, Light, Charles and Perry streets. The warehouse will have a capacity of 18,000 hogsheads of tobacco and will cost about \$250,000.

Beeville, Texas.—Office Building.—Bailey Mills Co., Victoria, Texas, has contract to erect office building for the Beeville Bank & Trust Co., previously mentioned; to be 25x60 feet; brick with stone trimmings; electric fixtures; cost \$7000.

Birmingham, Ala.—Skating Rink.—Contract will be let about October 1 for skating rink reported September 20 to be erected by the Southern Skating Auditorium Co., recently organized; building to be 100x140 feet and cost about \$12,000.

Birmingham, Ala.—Church.—H. A. Stockman has contract to erect edifice for the Five Points Methodist Church, previously reported. P. Thornton Marye, Atlanta, Ga., prepared the plans.

Chapel Hill, N. C.—Library Building.—Frank P. Milburn Company, Home Life Building, Washington, D. C., is preparing plans for \$50,000 Carnegie library building to be erected by University of North Carolina.

Charleston, W. Va.—Building.—George Hennehan has completed plans for three-story brick building to be erected by Thomas Popp at a cost of \$15,000.

Chattanooga, Tenn.—Church.—Bearden & Foreman are preparing plans for \$20,000 addition to be erected to Highland Park M. E. Church, South, Dr. E. Wiley, pastor.

Chattanooga, Tenn.—Dwelling.—Dr. R. C. Graham has completed arrangements for the erection of a two-story double brick residence to cost \$6000.

Chattanooga, Tenn.—Dwelling.—W. E. Brock has secured permit for the erection of proposed two-story double brick residence to cost \$6000.

Chattanooga, Tenn.—Amusement Building.—Johnson & Stewart have contract to erect hippodrome for the Hippodrome Company, referred to last week; building to be 100x210 feet, of ordinary construction, equipped with steam heat and electric lights, and cost \$20,000. Bearden & Foreman prepared the plans.

Collins, Miss.—Courthouse.—Bids will be received until October 15 at the office of J. T. Mathison, chancery clerk of Covington county, Collins, Miss., for the erection of brick and stone courthouse not to exceed \$45,000 in cost. Plans and specifications on file in the clerk's office; usual rights reserved.

Columbia, Mo.—College Building.—Reported that the Christian College, Mrs. W. T. Moore, president, will erect a \$50,000 academic building.

Columbus, Ga.—Warehouse.—M. C. Barlow has contract to rebuild the Hirsch Warehouse, recently reported burned. C. R. Johnson & Bros. will occupy the building on completion.

Crowley, La.—Hotel.—H. Koeke, New Or-

leans, La., has contract to erect Hotel Pizzini after plans by R. L. Soule.

Dallas, Texas.—Courthouse.—Contract has been awarded to the Simpson Mantel Co. at \$13,016.67 for repairing the floors of the Dallas county courthouse. C. A. Gill & Son, architects, will supervise the construction.

De Funiak Springs, Fla.—School Building.—Wm. T. McCormick, engineer, has been engaged to prepare plans for school building.

Douglas, Ga.—Hotel.—It is stated that about \$30,000 will be expended in improvements to the Tanner Hotel.

Emporia, Va.—Dwelling.—David Getax & Son, 315 East Fifth avenue, Knoxville, Tenn., has contract to erect residence for W. F. Deal after plans by Barber & Klutz, Knoxville, Tenn.; stone and brick; interior finished in mahogany and white enamel; cost \$28,000.

Fort Worth, Texas.—Fire Hall.—C. A. Tomlinson has contract at \$4300 for building the Seventh ward fire hall.

Fort Worth, Texas.—Dwelling.—E. F. Westerman has contract to erect residence for Hal Noble, for which Smith & Schenk were reported September 6 as preparing plans.

Fort Worth, Texas.—Business Building.—M. L. Waller, 6th and Houston streets, is preparing plans for building to be erected by J. C. Crowder, Dallas, Texas; three stories, 50x100 feet; brick and stone, iron and steel.

Gadsden, Ala.—Store and Office Buildings. Opera-house, etc.—W. P. G. Harding and associates of Birmingham, Ala., have purchased an entire block of property fronting on Broad street. It is stated the purchasers contemplate erection of store buildings, office buildings, opera-house and hotel.

Gadsden, Ala.—Dwellings.—Chas. S. Ward contemplates the erection of six or more residences to cost about \$2500.

Girard, Ala.—School Building.—Town will vote October 8 on a \$10,000 bond issue for the erection of school building. Address Town Clerk.

Grafton, W. Va.—Depot.—Baltimore & Ohio Railroad Co. will erect a \$115,000 depot and restaurant for employees for which plans will be made by the company's architect. D. D. Carothers, Baltimore, Md., is chief engineer.

Greendale, Ohio.—Factory Building.—Columbus & Hocking Clay Construction Co., R. A. Malgy, general manager, New First National Bank Building, Columbus, Ohio, will let contract for necessary buildings for brick plant, to include a central power station, machine shop, large factory building, drier, two fan-houses, six rectangular kilns, one continuous kiln, two stock sheds and numerous small buildings for employees; plans and specifications on file. Correspondence with contractors is desired.

Greensboro, N. C.—Business Building.—John Y. Smith has contract to erect building for Mrs. E. C. Watlington; two stories, 21x75 feet; pressed brick with plate-glass front.

Hagerstown, Md.—Hotel.—Herman M. Siefers and Frederick W. Siefers have purchased a three-story brick building, 45x240 feet, which will be remodeled as hotel.

Hagerstown, Md.—Pythian Temple.—Valley Lodge, Knights of Pythias, has purchased site on which to erect Pythian temple.

Hattiesburg, Miss.—Lodge Building.—Fryser & Spencer have contract to erect proposed three-story brick and stone building for the Woodmen of the World.

Hattiesburg, Miss.—Church.—The plans and specifications for the edifice to be erected by Main Street M. E. Church, South, for which plans by Barber & Klutz, Knoxville, Tenn., were reported September 13 as adopted, call for a one-story building 65x65 feet; stone and brick with marble trimmings; with Sunday-school annex of two stories with 14 classrooms; modern equipment, steam heat, toilets, etc. Contractors are invited to correspond with W. S. F. Tatum, chairman of building committee.

Houston, Texas.—Clubhouse.—A. R. Jay has contract at \$20,739 for clubhouse reported August 16 to be erected by the Seabrook Hunting and Fishing Club; three stories, 136.3x156.6; frame; concrete foundation; composition roof; electric and gas fixtures; cost \$20,000; O. H. P. Rudisill & Son, architects.

Houston, Texas.—Church.—Contract will be let October 4 for edifice to be erected by the Central Christian Church, reported August 23. Sanguinet, Staats & Suter have prepared plans for a building 72x123 feet, of pressed brick; cost \$40,000.

Houston, Texas.—Building.—Contract will be let October 1 for building to be erected by A. J. Weiss after plans by O. H. P. Rudisill & Son, 1012 Texas avenue; two stories, 40x50 feet; brick foundation; cement stucco; metal-shingle roof; cost \$3500.

Huntsville, Ala.—Business Block.—J. E. Pierce, manager N. F. Pierce Company, has purchased site on which to erect seven-story business building.

Huntsville, Ala.—Cotton Warehouses.—A. M. Booth has contract at \$8100 for the erection of two additional warehouses and a shed for the Farmers' Warehouse Co.

Independence, Mo.—Buildings.—Jackson county will hold an election about November 15 or 20 to vote on a bond issue for improvements at the county poor farm. Plans have been prepared by Root & Siemens, Kansas City, Mo., for building to accommodate 450 persons and provide for four three-story dormitories, a building for a dining-room and kitchen, an administration building; to be grouped about a central lawn and connected by a walk which can be enclosed in winter. About \$250,000 will be required for the erection and complete equipment. Geo. F. Damon, Kansas City, Mo., is general secretary of the associated charities.

Jacksonville, Fla.—Dwelling.—J. J. Upchurch is having plans prepared by H. J. Kluth for \$25,000 residence.

Kansas City, Mo.—Association Building.—Charles A. Smith is preparing plans for a six-story building of ornamental brick with stone trimmings to be erected by the Young Men's Christian Association; C. S. Bishop, secretary.

Kansas City, Mo.—Union Depot.—Kansas City Terminal Co., John M. Egan, president, has adopted plans by Jarvis Hunt for union station previously mentioned; main building to be of steel and concrete faced with terracotta. It is proposed to arrange the building to have a subway level for mail, baggage and express, track level where trains will enter and leave station and where passengers will get on and off trains, and station floor level, which will contain ticket offices, waiting-rooms, etc.

Knoxville, Tenn.—Business Building.—Contract will be let September 28 for building to be erected by the E. F. Mynatt estate, care of J. P. Haynes, for which plans have been prepared by L. C. Waters; five stories, 44x90 feet; mill construction; steam heat; electric fixtures; electric passenger and freight elevators; cost \$25,000.

Knoxville, Tenn.—Church.—Asylum Avenue Methodist Church is having plans prepared for the erection of proposed edifice. Address The Pastor.

Knoxville, Tenn.—Warehouse.—Knoxville Furniture Co. is contemplating arrangements for the erection of iron-clad warehouse 80x98 feet with composition roof.

Lagrange, Ga.—Store Building.—The building to be erected by the West Point (Ga.) Grocery Co., for which H. W. Caldwell and E. D. Roberts were mentioned September 20 as having contract, will be two stories, 50x150 feet; first floor of concrete; cost \$10,000. One 2000-pound hand elevator will be installed. Butt & Morris prepared the plans.

Lagrange, Ga.—Warehouse.—H. G. Barnes, manager King Hardware Co., has let contract to F. D. Roberts for the erection of one-and-one-half-story warehouse, 20x40 feet, of brick and iron.

Lake Charles, La.—Hospital.—Sanguinet, Staats & Reutter, Houston, Texas, have completed plans for hospital to be erected by the Sisters of the Incarnate Word; three stories, 56x72 feet dimensions of main building; steam heat, elevators, dumbwaiter, etc. A boiler-house will be detached from the main building.

Lake City, Fla.—Building.—Columbia Storage & Manufacturing Co. has begun the erection of building 152x52 feet; ordinary fireproof construction; cost \$6000; Friede & Hensley, architects.

Lake Providence, La.—School Building.—The \$30,000 bond issue mentioned August 16 to be voted on by East Carroll parish for the erection of school building has been carried, and arrangements will be made at once for the erection of building. Address The School Board.

Little Rock, Ark.—Hospital.—Board of Public Affairs will arrange at once for the erection of proposed city hospital, for which \$25,000 has been appropriated by the City Council.

Livermore, Texas.—Tobacco Warehouse.—Livermore Equity Tobacco Warehouse Co. has been incorporated with \$3500 capital stock by Levi Williams, G. W. Atherton, J. W. Boyle, John Lindley and others.

Logan, W. Va.—School Building.—Litz & Garland of Graham, W. Va., have contract to erect proposed school building.

Louisville, Ky.—Dwelling.—Samuel H. Newbold has purchased site on which to erect residence.

Louisville, Ky.—Library Building.—Bids marked "Proposals for Highland Branch

Library" and addressed to the Building Committee, Louisville Free Library, 533-549 Fourth avenue, will be received until September 26; proposals to cover all material and labor required in construction. Plans and specifications may be examined at office of John Bacon Hutchings, architect, Henry Franklin Hawes, associate architect, Columbia Building, and Building Contractors' Exchange in Tyler Building. Extra set of plans may be had on payment of \$10 to architects. Certified check for \$1000 on a Louisville bank must accompany each bid; usual rights reserved.

Louisville, Ky.—Store Building.—Selden-Breck Construction Co. of St. Louis, Mo., and Memphis, Tenn., has contract to erect store building for the Stewart Dry Goods Co., for which Kenneth McDonald was previously reported as preparing plans; 10 stories, 108 feet 6 inches by 180 feet; fireproof construction; cost \$400,000.

Louisville, Ky.—School Building.—Bids will be received until September 26 at office of Chas. C. Martin, secretary School Board, for alterations of the molding-room to an assembly hall at the Manual Training High School according to plans and specifications in the office of Thomas & Bohne, architects, 511 Keller Building. Lump bids only will be received, and a certified check for 10 per cent. of amount of bid must accompany each proposal; usual rights reserved.

Marshall, Mo.—School Building.—City will vote on a \$50,000 bond issue to erect high-school building. Address The Mayor.

Maysville, Ky.—Livery Stable.—John T. Parker will rebuild livery stable reported burned August 9; 140x120 feet; electric and gas fixtures; water-power elevator; cost \$12,000; I. M. Lane, architect and contractor.

Mobile, Ala.—Hotel.—General Supply & Construction Co. of New York, N. Y., has contract for the erection of the New Battle House after plans by Frank M. Andrews. Contract for the mechanical equipment has been awarded to Joseph McWilliams Co., Louisville, Ky.

Montgomery, Ala.—Office Building.—Algeron Blair has contract to erect two-story addition to office building for W. F. Vandermer, making the building eight stories. Steam heat, electric fixtures and Otis elevator will be installed.

Newbern, N. C.—Bank Building.—Newbern Banking & Trust Co., recently organized with James B. Blades, president, is arranging for the erection of building.

New Iberia, La.—Auditorium.—New Iberia Auditorium Co. has been incorporated with \$5000 capital stock. Plans have been prepared for a building 75x150 feet.

New Orleans, La.—Building.—Columbian Realty Co., recently organized to erect a building for the Knights of Columbus, has purchased site 100x120 feet on which it is proposed to erect a three-story structure. It is estimated that about \$200,000 will be expended on site and building.

New Orleans, La.—Gymnasium Building.—Y. M. C. A. is considering the erection of a gymnasium building to cost between \$40,000 and \$50,000; to contain, besides gymnasium, a swimming pool. Lester M. Ward, physical director, can be addressed.

Norfolk, Va.—Store and Flat Building.—Mrs. O. M. Etheridge will erect a three-story brick store and flat building 30x110 feet, to cost between \$8000 and \$9000.

Norton, Va.—School Building.—Plans are being prepared by Prof. C. Y. Chapman for a two-story pressed brick and stone school building; cost \$25,000.

Norfolk, Va.—School Building.—Clarence P. Neff of Neff & Thompson has been commissioned to prepare plans for \$5000 addition to the Cumberland-street school.

Oklahoma City, O. T.—Temple.—Reformed Jewish Congregation is arranging for the erection of \$6000 temple on site recently purchased. Dr. Joseph Blatt is pastor.

Owensboro, Ky.—College Building.—Stockholders of the Seven Hills Chautauqua Association are arranging for the erection of a \$60,000 building on the Chautauqua grounds.

Paducah, Ky.—Store Building.—Contract has been let for store building to be erected by L. Kolb after plans by O. D. Schmidt; four stories, 30x155 feet; pressed brick and stone; terra-cotta and marble trimmings; tin roof; electric fixtures; modern plumbing; steam heat; freight elevators.

Pass Christian, Miss.—School Building.—Bids will be received until October 16 at the office of the Mayor and Aldermen for furnishing material and labor and erecting a two-story and basement school building as per plans and specifications by J. M. Bramlett, on file in office of George P. Brandt, clerk. Certified check for 5 per cent. of amount of bid, payable to the treasurer of

the town, must accompany each bid. Usual rights reserved.

Pikeville, Ky.—Store and Office Building.—Reported that Armour & Co. will let contract for the erection of \$20,000 store and office building; W. A. Light, local manager.

Pine Bluff, Ark.—Business Building.—Gibb & Sanders, Little Rock, Ark., are preparing plans for a three-story brick building 54x120 feet for Fred Senyard and Jeff Hicks.

Ponchatoula, La.—Bank Building.—Arrangements are being completed for \$6000 building to be erected by the Merchants and Farmers' Bank.

Quannah, Texas.—Courthouse.—Hardeman county has voted affirmatively the proposed \$50,000 bond issue for the erection of courthouse. Address County Judge.

Reidsville, Ga.—School Building.—Contract will be let October 11 for the erection of two-story school building 87x88 feet; brick, cement, stone and wood; tin roof. B. H. Grover can be addressed.

Richmond, Va.—Depot.—Chesapeake & Ohio Railway is reported as arranging for the erection of proposed freight depot. H. Pierce, Richmond, Va., is engineer of construction.

Richmond, Va.—Dwelling.—M. J. Dimmock and W. Duncan Lee have completed plans for residence to be erected by M. L. Hofheimer at Ginter Park.

Richmond, Va.—School Building.—Charles K. Bryant has about completed plans for proposed high-school building for which site has been secured.

Runge, Texas.—Cotton Warehouse.—Farmers and Bankers' Warehouse Building Association, Houston, Texas, will erect warehouse for the Karnes County Warehouse Co., mentioned last week; 64x96 feet; galvanized iron with brick foundation; ordinary construction; cost \$2500.

Salisbury, N. C.—Jail Building.—Rowan County Commissioners have commissioned Frank P. Milburn & Co., Home Life Building, Washington, D. C., to prepare plans for proposed jail building. Plans will be ready about November 14, when bids will be asked.

San Antonio, Texas.—Office Building.—Geo. C. Saur has had plans prepared by Henry T. Phelps for three additional stories to building; cost \$35,000.

San Antonio, Texas.—Building.—Hicks estate is considering the erection of building on Avenue C.

Savannah, Ga.—Theater.—It is reported that the Savannah Theater Co. will rebuild theater reported burned at a loss of \$75,000. Albert Weis of New York, N. Y., is president, and M. Seeskind of Savannah, manager.

Seguin, Texas.—Store Building.—H. Krezdorn has had plans prepared for a two-story brick store building.

Sewell's Point, Va.—Government Piers.—Plans have been adopted for the piers reported August 23 to be built at the Jamestown Exposition by the United States Government. It is proposed to build two piers 150 feet wide and 1500 feet long and connected at the end by a reinforced concrete bridge, 150-foot span and 30 feet above high water; to be constructed on piling driven at intervals of 7½ feet; sheet piling will enclose the piers, which will be filled in; concrete walls will cover exterior of piers. A tower 90 feet high will be built on the end of each pier, one to be used as light-house and the other as wireless telegraph station. Capt. Spencer Coshy, Corps of Engineers, U. S. A., 22d and K streets N. W., Washington, D. C., will have charge of construction; Sydney B. Williamson, consulting engineer, 506 Equitable Building, Baltimore, Md.

Sewell's Point, Va.—Exposition Building.—Grand Trunk Railway Co. is arranging for the erection of a frame building 45x60 feet, to cost \$5000, on the grounds of the Jamestown Exposition, in which to exhibit the resources of Canada. H. R. Charlton, advertising agent, Montreal, Canada, and R. McC. Smith, Southern passenger agent, Detroit, Mich., have the matter in charge.

Sewell's Point, Va.—Hotel, etc.—Jamestown Construction and Amusement Corporation has had plans prepared for a building to be used for the exhibit of pure foods and hotel purposes; building to be four stories, the first floor and balcony to exhibit food and the remaining floors to contain 400 sleeping-rooms.

Sewell's Point, Va.—Exposition Building.—Betts-Hayden Construction Co., Inc., Bank of Commerce Building, Norfolk, Va., has contract at \$16,300 for the erection of the Maryland Building at the Jamestown Exposition after plans by Parker & Thomas, Union Trust Building, Baltimore, Md.; frame with brick veneer; main building two stories, 65x70 feet, and two wings each one story, 22x28 feet, and connecting corridors; cost of com-

pleted building \$40,000. C. F. Meislahn & Co., 19 Clay street, Baltimore, Md., have contract for the interior finish.

Sewell's Point, Va.—Exposition Building.—The West Virginia Commissioners to the Jamestown Exposition will visit the exposition grounds to select site for the location of the West Virginia Building. Governor Wm. M. O. Dawson, Charleston, W. Va., is chairman.

Spartanburg, S. C.—Apartment-house.—J. P. Stevens and associates are arranging for the erection of apartment-house.

St. Augustine, Fla.—Store Building.—Dr. R. B. Garnett is arranging for the erection of proposed brick store building 40x60 feet.

St. Louis, Mo.—Building.—C. E. Hamilton has contract to erect building for C. M. Dolph after plans by J. D. Paulus; five stories, 50x104 feet; brick; iron posts and beams, wood joist and floor; low-pressure steam-heating plant; electric freight elevator; cost \$33,000.

St. Louis, Mo.—Warehouse and Office Building.—Condle-Neale Glass Co., Herbert D. Condle, president, will erect a \$200,000 warehouse and office building.

St. Louis, Mo.—Flat Building.—Frederick Heckmann will erect \$6000 flat building on site recently purchased.

St. Louis, Mo.—Dwelling.—Store Building. Bernhard Haverkuch has purchased site on which to erect a \$10,000 building.

St. Louis, Mo.—Flat Building.—S. Steiner, 1064 Hodiamont avenue, has had plans prepared for a two-story double flat building, 48x76 feet; brick and stone; composition roof; hard plaster; gas and electric fixtures; plate glass; marble and tile work; cabinet mantels; cost \$12,000.

St. Louis, Mo.—Flat Building.—Chas. N. Breitschuh, Pozzoni Building, has prepared plans for four two-story flat buildings; brick and stone; tar and gravel roof; cost \$24,000.

St. Louis, Mo.—Warehouse.—W. M. Sutherland has contract for the erection of warehouse for the Kingman St. Louis Implement Co., mentioned September 20; six stories, 80x150 feet; slow-burning mill construction; steam heat; electric fixtures; electric elevator; cost \$100,000. A. B. Groves prepared the plans.

St. Louis, Mo.—Office Building.—Francis Bros. & Co. are considering the erection of a 10-story office building.

St. Louis, Mo.—Home Building.—Moshab Skenim Society held a meeting at the Shearith S'phard Synagogue, 1500 Wash street, to consider plans for the erection of a home for the aged of the Hebrew orthodox faith. A building has been purchased, which will be remodeled, together with a building site 375x175 feet, on which a modern hospital will be erected.

St. Michaels, Md.—Church.—Methodist Protestant Congregation is arranging for the erection of proposed \$7000 edifice. George Hines is pastor.

Suffolk, Va.—Hotel.—Arrangements are being made for the erection of a three-story addition to the Nansmond Hotel.

Texarkana, Texas.—Church.—The edifice to be erected by the First Methodist Church, for which Sanguinet & Staats, Fort Worth, Texas, were mentioned last week as preparing plans, will be 60x100 feet; brick and stone; ordinary construction; steam heat; electric wiring for lights and fans; cost \$30,000.

Trimble, Tenn.—School Building.—Town has voted affirmatively the proposed bond issue for the erection of school building. Address Town Clerk.

Tulahoma, Tenn.—Building.—Dr. A. E. Ray will let contract at once for the erection of two-story building to cost \$4000.

Washington, N. C.—Dwelling.—Wilkins Bros. & Benton, Wilson, N. C., are completing plans for \$8000 residence to be erected by W. C. Rodman. Hot-water or steam-heating apparatus, gas and electric fixtures will be installed.

Washington, D. C.—Store Building.—Mary L. Allen has awarded contract to C. A. Langley, 310 12th street N. W., for the construction of store building at 400 13th street N. W.; two stories and basement; brick with limestone trimmings; tin roof; electric wiring and fixtures; sanitary plumbing; hot-air-heating system; cost about \$7000; George S. Cooper, architect, 1413 G street N. W.

Washington, D. C.—Dwelling.—A. Gude, 1214 F street N. W., has awarded contract to Charles A. Lohr, Good Hope, D. C., for the construction of 2½-story frame dwelling with steam-heating system on Harrison street, Anacostia, D. C., to cost about \$5000; E. C. Webb, architect, Warder Building, 523 9th street N. W.

Washington, D. C.—Store Building.—Michael Ehrhardt, 1841 K street N. W., has

awarded contract to John C. Delckmann, 1627 Trinidad street N. E., for the construction of store building at 1727 21st street N. W.; one story, 20x52 feet; brick; slate and tin roofing.

Washington, D. C.—Dwellings.—J. R. Halslip, 1406 Montello avenue N. E., and C. Byrd, 1406 12th street N. E., contractors, will erect three two-story brick dwellings at 1132-1136 Penn street N. E. and three two-story brick dwellings at 1133-1137 Genoa street N. E., to cost about \$12,000.

Washington, D. C.—Dwellings.—James W. and Thomas F. Haney have awarded contract to J. H. McIntyre, 3221 Volla place N. W., for the construction of two two-story brick dwellings at 1719 and 1721 33d street N. W., to cost about \$5000.

Washington, D. C.—Dwellings.—James Martin, 1504 South Capitol street, will erect four two-story brick dwellings at 111-119 15th street S. E., to cost about \$10,000; Edward O. Voland, architect, 418 L street N. W.

Washington, D. C.—Dwellings.—Richard Ough, Friendship Heights, will erect eight two-story dwellings at Friendship Heights.

Washington, D. C.—Dwellings.—Harry Wardman, builder, 717 14th street N. W., will erect 32 two-story brick dwellings on Quincy near 1st street; A. H. Beers, architect, 717 14th street N. W.

Washington, D. C.—Dwelling.—Perry Belmont, New York, will erect dwelling at New Hampshire avenue, 18th and R streets N. W., to cost about \$300,000. It is reported that French architect is making the plans and specifications.

Washington, D. C.—Dwelling.—George Howard, 1008 16th street N. W., will erect dwelling at northeast corner 16th and M streets N. W.

Washington, D. C.—Guardhouse.—Capt. John Stephen Sewell, constructing officer, U. S. Soldiers' Home, will receive proposals until October 22 for the erection of guardhouse complete except heating plant and lighting fixtures. Plans and specifications may be obtained on deposit of \$25.

Washington, D. C.—School Building.—Henry B. F. Macfarland, Henry L. West and John Biddle, Commissioners District of Columbia, have purchased lot on M street between 3d and 4th streets S. E., and will erect school building on the site.

Washington, D. C.—School Buildings.—The Holy Cross Academy, Pierce Mill road, has purchased additional property on Pierce Mill road and has had tentative plans prepared for the erection of a group of buildings averaging 50x100 feet.

Washington, D. C.—Dwelling.—J. Edwin Lewis, Georgetown, D. C., will erect dwelling on Newark street, Cleveland Park; two and one-half stories, 26x40 feet; frame construction on stone foundation; tin and slate roof; pebble-dash exterior; electric wiring and fixtures; sanitary plumbing; hot-water heating system. McKay & Morris, 1333 G street N. W.; Building & Supply Corporation, Home Life Building, 15th and G streets N. W.; Richard Ough, Friendship Heights, D. C.; C. A. Warthen, Kensington, D. C., and John Simpson & Sons, Forest Glen, Md., are estimating on construction; bids to be in September 28.

Washington, D. C.—Dwelling.—John H. Nolan, 1413 G street N. W., was the lowest bidder for the construction of dwelling at Belair Heights for L. A. Coolidge, Home Life Building, 15th and G streets N. W.; three stories, 30x72 feet; brick with stone trimmings; structural iron and steel; slate roof; electric wiring and fixtures; sanitary plumbing; hot-water heating system; Wyeth & Cresson, architects, 1517 H street N. W.

Washington, D. C.—Store Building.—Miss Amelia Thurm, Good Hope, D. C., will erect store building at Good Hope, D. C.; two stories, 24x58 feet; brick with stone trimmings; tin roof; galvanized-iron cornice; sanitary plumbing; hot-air heating system; E. C. Webb, architect, Warder Building, 523 9th street N. W.

Washington, D. C.—Store Building.—E. O. Whitford, 6 Wholesale Row, Centre Market, has awarded contract to James L. Parsons, 13½ and Pennsylvania avenue N. W., for the construction of store building at 142 and 144 East Capitol street; two stories, 31.10x50 feet; brick with stone trimmings; steel beams; slag roof; electric wiring and fixtures; sanitary plumbing; heating system; cost about \$6000.

Washington, D. C.—Bank and Office Building.—It is reported that the Union Trust Co., 1414 F street, has awarded contract to George A. Fuller Company, Munsey Building, 1331 Pennsylvania avenue N. W., for the construction of bank and office building at southwest corner 15th and H streets N. W.; eight stories, 53x161 feet, with wing 42x100 feet; granite exterior; steel-frame construction with reinforced concrete (long span) floor arches; terra-cotta partitions; metal frames and sashes; interior marble; electric wiring and fixtures; sanitary plumbing; steam-heating system; elevators; cost about \$500,000; Wood, Donn & Deming, architects, 808 17th street N. W.; Bernard R. Green, Congressional Library, superintendent of construction; Newton & Painter, 1201 American Building, Baltimore, Md., consulting engineers lighting, plumbing, heating and ventilating.

Washington, D. C.—Lavatory.—The Washington Slaughtering & Cold Storage Co. has awarded contract to George W. Dove, 101 U street N. W., for the construction of lavatory at its plant at Benning, D. C.; one story, 25x40 feet; frame construction; sanitary plumbing; Oscar G. Vogt, architect, Corcoran Building, 15th and F streets N. W.

Washington, D. C.—Apartment-house.—Alonzo O. Bliss, Bliss Building, 35 B street N. W., has awarded contract to W. E. Speir Company, 1342 New York avenue N. W., for the construction of apartment-house at southwest corner 1st and B streets N. W.; five stories, 47x123.6 feet; brick with Indiana limestone trimmings; reinforced-concrete construction; slag roof; electric wiring and fixtures; sanitary plumbing; steam-heating system; elevator; cost about \$100,000; A. Goener, architect, Bliss Building, 35 B street N. W.

Washington, D. C.—Bank and Office Building.—W. B. Hibbs & Co., 1419 F street N. W., has awarded contract to George A. Fuller Company, Munsey Building, 1331 Pennsylvania avenue, for the construction of bank and office building on 15th street near New York avenue N. W.; 10 stories, 37.6x100 feet; marble front and glazed white-brick side and rear; steel-frame construction with reinforced-concrete long-span floor arches; mosaic tiling; interior marble; mosaic tiling; bronzework; electric wiring and fixtures; sanitary plumbing; steam-heating system; elevators; cost about \$275,000; Bruce Price & de Sibour, architects, 1135 Broadway, New York.

Waycross, Ga.—Hotel.—Bids are being received for hotel to be erected by the Waycross Hotel Co. at a cost of \$100,000 for which H. J. Klutho, Jacksonville, Fla., was reported July 26 as preparing plans.

Waycross, Ga.—Association Building.—H. J. Klutho, Jacksonville, Fla., has been commissioned to prepare plans for building to be erected by the Young Men's Christian Association; brick and stone; gravel roof; mosaic tile floor; hard plaster; cost \$35,000. Swimming tank, shower baths and other bathing facilities, steam heat, bowling alleys, etc., will be installed.

West Palm Beach, Fla.—School Building.—Dade county has voted affirmatively the \$40,000 bond issue previously reported for erecting school building. Plans for an artificial-stone building have been prepared. R. E. Hall is secretary and superintendent department of public instruction, Miami, Fla.

Whitesburg, Ky.—Church.—Plans are being prepared by D. W. Salyer for \$12,000 edifice to be erected by the M. E. Church, South.

Williamsport, Md.—Lodge Building.—Potomac Lodge, Knights of Pythias, has purchased site 96x40 feet on which to erect a three-story brick building.

Winnsboro, La.—School Building.—City has voted affirmatively the proposed \$20,000 bond issue for the erection of high-school building. Address The Mayor.

Yazoo City, Miss.—City Hall.—Bids will be received until October 8 at the office of E. R. Holmes, Mayor, for the erection of City Hall and the equipment of same with steam-heating plant, plumbing and electric wiring as per separate plans and specifications for each on file in Mayor's office. Parties may bid on each or all of contracts. Each bid will be required to state the time when contract will be completed. Plans and specifications may be had and examined upon application to S. E. Barnwell and E. R. Holmes, Mayor. Usual rights reserved. Further information can be had by addressing R. H. Hunt, architect, Chattanooga, Tenn.; S. E. Barnwell or E. R. Holmes, Mayor, both of Yazoo City, Miss.

Southern-Built Motors and Generators.

Southern-built motors and generators are coming into general use in the electrical field because of their inherent features of merit. The American Machine Co. of Louisville, Ky., is one of the leading makers of direct-current motors and generators, and has just issued Bulletin No. 26 to describe its output in this direction. It follows the most modern designs, uses the best materials obtainable, the highest-skilled workmen and produces electrical motors and generators fitted to do the work of the most exacting plant.

RAILROAD CONSTRUCTION.

Railways.

Atlanta, Ga.—President M. Mason is reported as saying that the Atlanta & Carolina Railway Co. proposes to build an electric line from Atlanta to Anderson, S. C., and also to West Point, Ga., of which 170 miles will be in Georgia and 20 miles in South Carolina, surveys now being made. Eighty-pound rails will be used. M. T. Edgerton is secretary at Atlanta.

Augusta, Ga.—Mr. A. E. Hess, chief engineer of the Georgia & Florida Railway, is quoted as saying that final surveys have been made for the proposed link in the Georgia & Florida Railway as follows: Augusta to St. Clair, Ga., 31.4 miles; Midville to Summit, Ga., 17.7 miles; Vidalia to Hazlehurst, Ga., 28.6 miles; Nashville to Valdosta, Ga., 27.6 miles; total, 105.3 miles. Contracts are to be let as soon as location is finished, the work being done under the Augusta Construction Co., John Scott of Augusta being president. Revision and improvement work will also be done on 137.4 miles of line already built. John Skelton Williams of Richmond, Va., is president of the railroad. He is reported as saying that grading will begin shortly, the necessary money for construction and equipment being in hand; also that it is expected to have the line in operation within a year.

Baton Rouge, La.—Reported that the Yazoo & Mississippi Valley Railroad (Illinois Central system) is surveying for and will soon let contract to build second track from Baton Rouge toward New Orleans. A. S. Baldwin is chief engineer at Chicago, Ill.

Brownsville, Texas.—E. B. Gore, chief engineer of the Brownsville, Hidalgo & Northern Railroad at Brownsville, is reported as saying that contracts will probably soon be let to build the proposed line from Brazos Santiago via Brownsville to Hidalgo, Texas, 81 miles. Capital is secured, surveys have been made and right of way is nearly all obtained. Col. Uriah Lott is president at Brownsville, Texas. Survey to Corpus Christi is also in progress.

Brownsville, Texas.—H. C. Hord of Sweetwater, Texas, general attorney for the Kansas City, Mexico & Orient Railway, is reported as saying that survey has been made as far as Del Rio, Texas, for the proposed branch from Sweetwater down the Rio Grande valley to Brownsville. M. P. Paret is chief engineer at Kansas City, Mo.

Cairo, Ga.—The Albany, Cairo & Gulf Railway Co. has been granted the charter applied for to build a line 180 miles long from Albany via Cairo, Ga., to St. Joseph's Bay, Fla. W. B. Roddenberry and others are interested.

Cairo, W. Va.—Mr. C. B. Kefauver, secretary and general superintendent of the Cairo & Kanawha Railroad Co., writes the Manufacturers' Record that it is expected in the course of the next few weeks to begin construction of an extension to Smithville, eight miles. Either the company will do the work or it will be turned over to local contractors.

Chestertown, Md.—The Manufacturers' Record is informed that the Kent Traction Co. of Chestertown, recently incorporated, has awarded a contract to D. E. Baxter & Co. of New York to build an electric railway between Tolchester and Chestertown, about 10 miles. The company also proposes building other lines, the plans being promoted by Mr. Alva A. Lamkin at Baltimore, who is secretary and general manager of the company. The other officers are: Fred G. Usilton, president, and Jefferson D. Bacchus, vice-president and general manager at Chestertown. The line will connect with Rock Hall, Sandy Bottom, Georgetown and Fairlee. The power-house is to be built at Fairlee.

Chickasha, I. T.—Davis Bros. are pushing construction on the Oklahoma Central Railway about 12 miles east of Chickasha.

Columbus, Ga.—The Central of Georgia Railroad Co. has, it is reported, bought 100 acres of land immediately east of Columbus for the purpose of building new yards. C. K. Lawrence is chief engineer at Savannah, Ga.

Corinth, Miss.—A dispatch to the Manufacturers' Record says: "The Corinth & Shiloh Electric Railway Co. has been financed by W. W. Williams & Co., First National Bank Building, Nashville, Tenn., and construction begins immediately; in the market for rails and supplies; Williams & Co. in charge of construction."

Cynthiana, Ky.—Mr. E. E. Barton, chief engineer of the Cynthiana & Claysville Railway at Falmouth, Ky., is reported as saying that survey is completed from Cynthiana to Claysville, 13 miles, and right of way has been secured. J. T. Simon is president at Cynthiana.

Edenton, N. C.—The Virginia & Carolina Const Railroad Co. proposes to build a line from Edenton to a point at or near the northwestern boundary of North Carolina. A meeting is to be held on October 16 at Norfolk, Va., for the stockholders to act on the proposition. M. W. McGuire is general superintendent at Norfolk, Va. F. S. Gannon is president at New York City.

Front Royal, Va.—Franklyn & Clarke of Philadelphia are reported to be surveying for the proposed Front Royal, Rappahannock & Tidewater Railway.

Gainesville, Texas.—Westinghouse, Church, Kerr & Co. are reported to be investigating the route of the proposed Gainesville, Whitesboro & Sherman Interurban Railway and may build the line; president, G. A. Hasinger of New Orleans.

Gainesville, Fla.—The American Construction Co. is the general contractor for the extension of the Gainesville & Gulf Railway from Fairfield to Tampa, Fla., 106 miles, which is under the name of the Tampa & Jacksonville Railway. There will be a branch 39 miles long from Sumter City to Gainesville. Grading is under way on the main line, W. H. Jones of Mayo, Fla., as heretofore reported, having the subcontract for 52 miles from the Crystal river to the Withlacoochee river. H. L. Shaw of Gainesville is acting chief engineer, and C. M. Atkinson is president and general manager.

Georgetown, Texas.—A movement is under way to build a railway from Fort Worth to Georgetown via Godley, Glenrose, Hico, Hamilton, Gatesville, Killeen and Florence. Mayor R. L. Chalk of Killeen, Texas, and others are interested.

Glenville, W. Va.—The Manufacturers' Record is informed by an officer that the Glenville & Kanawha Railroad Co. expects to begin survey immediately to locate the proposed line, which will run for about 25 miles through fine coal land. Active construction is expected to begin as soon as preliminaries can be arranged. R. F. Kidd is president; James A. Tierney, secretary and treasurer, and Robert L. Ruddell, general manager.

Greenville, S. C.—It is announced that application will be made to charter the Greenville & Greenwood Railway Co. to build a line between the two points named, about 50 miles. The incorporators are H. H. Prince and Frank C. Owens of Greenville, S. C., and W. F. Neal of Birmingham, Ala.

Gulfport, Miss.—The Gulf Construction Co., capital \$100,000, has applied for a charter, and among other things proposes to build the Gulfport, Natchez & Vicksburg Railroad, in which Thomas Reber and W. A. S. Wheeler of Natchez, Miss., are interested. The incorporators of the Construction Company are W. W. Hungerford, M. G. May, W. A. S. Wheeler, M. C. Lott and others of Gulfport, Natchez and other places.

Hattiesburg, Miss.—Reported that W. S. F. Tatum of Hattiesburg will build a standard-gauge railroad about 15 miles long to develop timber land; also a belt line around Hattiesburg.

Hendersonville, N. C.—The Southern Railway Co. is reported, will make extensive improvements along the line to Lake Toxaway. W. H. Wells is engineer of construction at Washington, D. C.

Indian Springs, Ga.—It is reported from Flovilla, Ga., that W. F. Smith has purchased the old roadbed of the line to connect Madison, Monticello, Jackson, Griffin and Indian Springs, and it is said that a railroad is to be constructed.

Kansas City, Mo.—The Chicago, Rock Island & Pacific Railway, it is reported, will build very extensive freight yards adjoining Kansas City. This will include the building of about 30 miles of additional yard tracks. J. B. Berry is chief engineer at Chicago, Ill.

Lawton, O. T.—The Lawton Rapid Transit Co. has, it is reported, been granted charter to build lines in Lawton and also from Lawton to Fort Sill. Among those interested are Neal S. Doran and E. H. Shaulder of Kansas City, Mo.

Lawton, O. T.—The Manufacturers' Record is informed by F. M. English that the Lawton, Texas & Northwestern Railway Co. proposes to build a line from Lawton to Wichita Falls, Texas, 55 miles, immediately. The directors are F. M. English, C. C. Black, H. E. Julian, E. E. Shipley and C. W. Crabtree, all of Lawton.

Lawton, O. T.—The Oklahoma Southwestern Construction Co., capital \$750,000, has been chartered to build the proposed Kansas City, Lawton & Pacific Railroad from the Grand river, Indian Territory, to the Red river, on the southern boundary of Oklahoma, with a branch from Wewoka, I. T., via Wetumpka to Dustin, I. T. The incorporators are H. W. Scott of New York, Henry

Briggs and C. M. Rawlings of Kansas City, Mo.; C. L. Long of Wewoka, I. T.; E. A. Hill of Muskogee, I. T.; E. E. Shipley, R. A. Jones, S. L. Keegan and James N. Powers of Lawton, O. T.

Leslie, Ark.—The Missouri & North Arkansas Railroad Co. will receive bids until noon on October 15 for grading and bridging the proposed extension from Leslie to Pangborn, Ark., 75 miles. The Allegheny Improvement Co., W. S. Dawley, chief engineer, is the general contractor at 839 Security Building, St. Louis, Mo.

Milltown, Ga.—It is announced that citizens of Valdosta have agreed to subscribe \$25,000 for the proposed extension of the Milltown Air Line to that place. N. E. Whitehurst is manager at Milltown.

Montgomery, Ala.—The Louisville & Nashville Railroad is reported to be making rapid progress with the enlargement of the yards in North Montgomery, laying tracks to accommodate 20 additional freight trains. Work is to be completed in about a month.

Morgantown, W. Va.—Mr. J. W. Wiles informs the Manufacturers' Record that the Morgantown & Southern Railway Co. will begin survey immediately and grading will begin next week on the first mile of its proposed line. It is hoped to continue the road to Fairmont, 25 miles. The president is J. W. Wiles; vice-president, D. B. Purinton; treasurer, C. R. Hays; secretary and general manager, E. W. Herd, the other directors being M. W. Reed, C. W. Huston and I. G. Saffelle. Mr. Herd is engineer at Morgantown.

Nacogdoches, Texas.—M. Peterson has the grading contract for the extension of the Nacogdoches & Southeastern Railway from Woden to a point near Oil City.

New Iberia, La.—W. Jones and T. A. Perrine, civil engineers from New York, are reported to be investigating the proposed route for the electric railway of the Bayou Teche Railway & Light Co., recently chartered to build a line connecting New Iberia, Franklin, Lafayette, Abbeville and St. Martinville; capital \$500,000. Paul M. Schneidau is president; Caspar Trumpy, vice-president; Frank A. Daniels, treasurer, and James W. Porch, secretary, all of New Orleans. Frank A. Longshore is the other director. W. P. Connerly of New Orleans is also said to be interested.

Parkersburg, W. Va.—Reported that the Parkersburg, Marietta & Interurban Railway Co. will apply for a franchise in Parkersburg to build an extension across the Little Kanawha river.

Pikeville, Ky.—Construction of the Long Fork Branch Railroad 23 miles into the coal fields is proposed, contract to close at once. R. W. Jones, president, Pikeville, Ky., can give information.

Poplarville, Miss.—The Edward Hines Lumber Co. is reported to be surveying to build a standard-gauge railroad which will reach Gulfport, Miss.

Princeton, W. Va.—Reported that contracts will not be let until next year to build the Interstate Railway from Princeton to Bluefield, W. Va., 25 miles. James Collins of Bramwell, W. Va., is president.

Rosser, Texas.—Reported that the Texas Midland Railroad will build a branch about five miles long from Rosser to Dam No. 6 on the Trinity river. E. H. R. Green is president at Terrell, Texas.

San Saba, Texas.—The San Saba Valley Railway is reported to be surveying and obtaining rights of way for its proposed line from Antelope Gap, on the Santa Fe, in Mills county, Texas, via San Saba to Crothers, Texas, on the Fort Worth & Rio Grande Railway, 50 miles. E. Campbell is president at San Saba, and W. H. Haywood, chief engineer at Jefferson, Texas.

Scottsville, Ky.—The incorporation of the Gallatin & Scottsville Railway Co. is to build a line from Rogana, Tenn., to Hartsville, Tenn., and from Gallatin, Tenn., to the Kentucky boundary near Sugar Grove, and thence to Scottsville, Ky.

Shawnee, O. T.—Reported the Rock Island system will rebalt tracks and lay new rails in the Choctaw district. J. B. Berry is chief engineer at Chicago, Ill.

Shelbina, Mo.—The Shelby County Railway Co. of Shelbina, capital \$110,000, has been incorporated by R. L. Carter, J. E. Ragsdale, James Edelen and others.

St. Marys, Ga.—Mr. L. Johnson informs the Manufacturers' Record that the Waycross, Nashville & St. Marys Railroad Co. proposes to build a line from St. Marys to Nashville, Ga. H. P. Blount is engineer in charge at St. Marys.

Sweetwater, Texas.—The Kansas City, Mexico & Orient Railway has completed 73 miles of line from Sweetwater to Knox City, Texas.

Talladega, Ala.—Reported that the Calla-

han Construction Co. of Knoxville, Tenn., has been awarded a contract to build 20 miles of line near Talladega for the Atlanta, Birmingham & Atlantic Railroad, work to begin immediately.

Tuscaloosa, Ala.—Mr. E. R. Bassett of Bowling Green, Ky., informs the Manufacturers' Record that he, with W. M. Kirby, F. Kister and others of Bowling Green, have purchased timber lands in Fayette and Tuscaloosa counties, Alabama, along the Sipsey river, and may build a railroad from Fayette, on the Southern Railway, to a point on the Mobile & Ohio Railroad west of Tuscaloosa.

Vienna, Ga.—A charter has been granted to the Georgia Eastern Railroad Co. to build its proposed line, 82 miles long, to connect Vienna, Americus, Eastman and other points. The incorporators, as heretofore stated, are J. P. Heard and others of Vienna.

Waldron, Ark.—W. R. Abbott, president of the Central of Arkansas Railroad, Fort Smith, Ark., is reported as saying that survey is being made for an extension to Waldron, 60 miles. The company is now building from Ola, Ark., to Hot Springs, Ark., and the line to Waldron will branch from the road now under construction at a point seven miles south of Ola.

Washington, D. C.—A. B. Linderman, president of the Norfolk & Washington Air Line Co., is reported as saying that it proposes to build a steam railway from Washington to Esperanza, Md., 64 miles; survey made and grading finished from Mechanicsville, Md., to Arcade Bridge, Md., 22 miles. D. E. Baxter & Co., 27 William street, New York, have been awarded construction contract for the entire line. Mr. Linderman's address is Forest Building, Philadelphia, Pa. J. O. King is vice-president at Oakville, Md., and William A. Hopkins is secretary and treasurer, and Reuben Albert is chief engineer, both of Philadelphia.

Waycross, Ga.—The Georgia & Florida Pine Belt Railway Co. has applied for charter to build a line from Waycross to Statesville, Ga., 60 miles. The incorporators are W. B. Ellington, W. W. Sharp, Leon A. Wilson, G. R. Youmans and J. S. Bailey of Ware county, W. C. Dodson, C. J. Hadon and B. W. Blackstock of Fulton, W. L. Herendeen of New York, and D. C. Newton of Tannal county.

Wichita Falls, Texas.—The Wichita Falls & Oklahoma Railroad Co. has completed 23½ miles of line from Wichita Falls northward to the Red river. It is an extension of the Wichita Valley Railway, which has been extended from Seymour to Stamford, Texas, and is now extending from Stamford to Abilene, 40 miles.

Street Railways.

Argenta, Ark.—J. M. Griffin, J. P. Faucette and John G. Vogel have accepted the street-railway franchise granted by the City Council, and it is reported that they are preparing to begin work, which must begin within the next two months.

Atlanta, Ga.—The North Georgia Electric Co. proposes to amend its charter to increase the capital stock from \$5,000,000 to \$7,500,000.

Birmingham, Ala.—The Birmingham Railway, Light & Power Co. has begun construction on the Avenue C line, which will run to Avondale, more than three miles.

Fort Smith, Ark.—The City Council has granted a franchise to Ira L. Reeves for his proposed interurban electric railway.

Lawton, O. T.—The Lawton Rapid Transit Railway Co. has been chartered, capital \$1,000,000, to build 20 miles of electric railway in Lawton. The incorporators are Neal S. Doran and E. H. Shauder of Kansas City, W. M. Smith, H. A. Lloyd and J. Elmer Thomas of Lawton.

New Orleans, La.—The St. Bernard Traction Co. has been organized to build a line from New Orleans to Borgemouth, eight miles below the city limits, and to other points in Orleans and St. Bernard parishes, the total length of line to be 15 miles. The directors are William J. Kelly, M. Warrines, R. H. Warrines, Henry P. Dart, Oliver P. Livaudais and L. T. Bringer.

San Antonio, Texas.—The San Antonio Traction Co. is preparing to build the proposed Tobin Hill line. W. B. Tuttle is general manager.

Shawnee, O. T.—Reported that work is nearly completed on the construction of the Shawnee & Tecumseh Electric Railway, which is now handling business. G. W. S. Brubaker has charge of construction.

Big Order for Rust Boilers.

The Rust Boiler Co. of Pittsburgh, Pa., has secured the order for the boilers for the United States Steel Corporation's new plant at Gary, Ind., the contract being for 16 400-horse-power Rust water-tube boilers.

MACHINERY, PROPOSALS AND SUPPLIES WANTED.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery that is wanted.

Alcohol Machinery.—E. W. Power, cashier First National Bank, Cement, O. T., wants information relative to the production of denatured alcohol and the approximate cost of a plant to produce same.

Alcohol Machinery.—N. Glen Williams, Williams, N. C., wants prices and catalogues on complete equipment for the manufacture of wood alcohol.

Asphalt Plant.—M. H. Crump, Bowling Green, Ky., wants engine, boiler, crusher, roller and conveyor for 300-ton rock-asphalt plant.

Baling Press.—Edw. F. Barrows, 542 East Duffey street, Savannah, Ga., wants prices on presses for continuous baling.

Baling Press.—Southern Manufacturing Co., Savannah, Ga., wants baling press.

Bank and Store Fixtures.—East Carolina Railway, Tarboro, N. C., wants to contract for bank and store fixtures for four-story office building.

Barrel Machinery.—B. F. Duncan, Columbia, N. C., will probably want machinery for manufacturing truck barrels. (See "Shingle Machine.")

Bed-comfort Material.—J. W. Hollingsworth, Louisville, N. C., wants samples and prices on materials for making bed comforts.

Boiler.—See "Engine and Boiler."

Boiler.—B. F. Duncan, Columbia, N. C., wants 60 to 80-horse-power boiler. (See "Engine and Boiler.")

Boiler.—Virginia Table Works, Inc., W. L. Lincoln, president, Marion, Va., will probably want a 100-horse-power boiler.

Boilers.—Columbia Clay Works, M. L. Fellmer, vice-president and general manager, Columbia, Ill., wants prices on boilers.

Boilers.—See "Engine and Boilers."

Boilers.—The Plains Steam Laundry, R. S. Cochran, president, The Plains, Va., wants boilers.

Boilers.—See "Engines and Boilers."

Brick Machinery.—P. Q. Shrake, Independence, Va., wants brick machinery, including repress-brick machine.

Brick Machinery.—R. L. Ruddell, Glenville, W. Va., wants information and prices on a small power brick machine and pug mill combined to be operated by steam or gas engine; capacity from 6000 to 12,000 bricks daily.

Bridge Construction.—Howardsville Bridge Co. will let contract for the construction of toll bridge across the James river at Howardsville, Va. For further information address R. C. Blackford, 29-30 Law Building, Lynchburg, Va.

Bridge Construction.—Bids will be received at the office of W. D. Starling, Supervisor of Richland county, Columbia, S. C., until October 8 for building a bridge over Little river on the Monticello road, 17 miles from Columbia. Specifications can be seen at the Supervisor's office. Also bids will be received at same time to build a bridge over Crane creek on the Winnsboro road, six miles from Columbia. Commissioners reserve usual rights.

Bridge Construction.—Bids will be received until October 8 by the Board of Supervisors of Patrick county, Stuart, Va., for building a steel-truss wagon bridge across Mayo river near the depot of the D. & W. Railroad; bridge to consist of one steel span 60 or 80 feet long (as may be adopted by the board), with roadway 12 feet wide in the clear; two steel piers (one at each end of span), consisting of two cylinders 2 feet in diameter, about 14 feet high (from foundation), to be filled with cement. Bids are asked on both 60 and 80-foot span. Plans on file in Commissioners' office for the inspection of bidders; usual rights reserved. For further information write to J. S. Taylor, clerk of board, Stuart, Va.

Bridging.—See "Railroad Construction."

Building Materials.—Henry Clark Bridgers, Tarboro, N. C., will let contract for terra-

cotta trimmings and molded work in office building, and wants to correspond with manufacturers.

Building Materials.—Kalski Music Co., Ltd., Monroe, La., wants prices on building materials.

Building Materials.—East Carolina Railway, Tarboro, N. C., wants to contract for expanded metal and concrete fireproof floors, tiling and terrazzo floors, marble wainscoting and stairs, metal ceiling, etc., for four-story office building.

Building Materials.—East Carolina Railway, Tarboro, N. C., wants to contract for expanded metal and concrete, tiling and terrazzo marble wainscoting and stairs, metal ceiling, etc., for four-story office building.

Cannery Equipment.—Capital Canning Co., M. Luther West, secretary, Guthrie, O. T., will contract for the installation of canning machinery. Specifications furnished on application.

Cement Machinery.—Carlsbad Printing Co., Carlsbad, N. M., wants addresses of manufacturers of cement machinery, such as vats, etc.

Chimneys.—Lann & Carter Hardware Co., 70-72 Commerce street, Aberdeen, Miss., wants to correspond with builders of smokestacks or chimneys built of special hollow blocks.

Clayworking Machinery.—Columbia Clay Works, M. L. Fellmer, vice-president and general manager, Columbia, Ill., wants prices on clayworking machinery.

Conveyor.—See "Asphalt Plant."

Cotton-mill Machinery.—John C. Hand, Cedarstown, Ga., wants plans and specifications for cotton mill and estimates on textile machinery and power plant; mill to work up three to four bales of cotton daily into yarns for duckmaking. (See "Power Plant.")

Crusher.—See "Asphalt Plant."

Crushing Plant.—R. J. Grantham, Wilson, N. C., wants rock-crushing machinery and drills.

Dam Construction.—Bids will be received until October 10 at the office of Channing M. Bolton, chief engineer of water-works, Charlottesville, Va., for building a concrete dam about 400 feet long by 67 feet high. Certified check for \$500 must accompany each bid; usual rights reserved.

Dam Construction.—Country Club, Sherman, Texas, is receiving bids for the construction of an earthen dam with a masonry spillway. Address D. W. Gulick, secretary, or Charles E. Haydon, engineer.

Drills.—See "Crushing Plant."

Electric and Gas Fixtures.—East Carolina Railway, Tarboro, N. C., wants to contract for electric and gas fixtures for four-story office building.

Electrical Equipment.—Dr. A. E. Ray, Tullahoma, Tenn., wants small dynamo.

Electrical Equipment.—Kalski Music Co., Ltd., Monroe, La., wants electrical equipment.

Electrical Equipment.—Virginia Table Works, Inc., W. L. Lincoln, president, Marion, Va., wants motors for driving machinery in table factory.

Electrical Pumping Plant.—See "Pumping Plant."

Electric-light Plant.—Bids are being received for installing an electric-light system—steam plant—for lighting the city; population 8000. Contracts must be closed not later than December 1 and plant ready for operation June 10, 1907. Address J. B. Johnson, chairman of committee, Rock Hill, S. C.

Electric Wire.—W. M. Banks, Coal Creek, Tenn., wants good second-hand electric-light wire—2000 feet 2/0, 2000 feet 1/0, 2000 feet No. 1, 1000 feet No. 1, 1000 feet No. 4, 1000 feet No. 6, 1000 feet No. 8, 1000 feet No. 10.

Electric Wiring.—See Building Note under Yazoo City, Miss.

Electric Wiring.—Gulfport Theater Co., Gulfport, Miss., wants to contract for electric wiring for theater.

Elevator.—H. W. Caldwell and E. D. Roberts, Lagrange, Ga., want prices on one Morse & Williams elevator.

Engine.—See "Traction Engine."

Engine.—Dr. A. E. Ray, Tullahoma, Tenn., wants three-horse-power gasoline engine.

Engine.—N. E. Ramsey, Lincolnton, N. C., wants one new or second-hand 5 to 10-horse-power engine.

Engine and Boiler.—Edw. F. Barrows, 542 East Duffey street, Savannah, Ga., wants engine and boiler.

Engine and Boiler.—B. F. Duncan, Columbia, N. C., wants 40 to 60-horse-power engine and 60 to 80-horse-power boiler.

Engine and Boiler.—M. H. Crump, Bowling Green, Ky., wants engine and boiler. (See "Asphalt Plant.")

Engine and Boilers.—City of High Point, N. C., M. J. Wrenn, Mayor, wants one 150-horse-power engine and several 100-horse-power boilers. (See "Steam Plant.")

Engines and Boilers.—Kallisk Music Co., Ltd., Monroe, La., wants engines and boilers.

Excelsior Machinery.—Edw. F. Barrows, 542 East Duffey street, Savannah, Ga., wants catalogues and price-lists on equipment for excelsior factory, including baling presses for continuous baling.

Excelsior Machinery.—Composite Tile Co., Rocky Mount, N. C., wants information regarding excelsior machinery.

Fertilizer Factory.—Craven Chemical Co., C. E. Fox, manager, Newbern, N. C., wants equipment for fertilizer factory.

Grinding Machinery.—See "Paint Machinery."

Grinding Machinery.—See "Paint-Factory Equipment."

Handle Machinery.—See "Woodworking Machinery."

Hardware.—Ashboro Wheelbarrow & Manufacturing Co., Ashboro, N. C., wants addresses of manufacturers of single-tree clips.

Harness.—D. E. Peeper, care of L. W. Rogers, 97 South Forsyth street, Atlanta, Ga., wants dealers' prices on factory-made harness and harness supplies.

Heating Apparatus.—See Building Note under Yazoo City, Miss.

Heating Apparatus.—East Carolina Railway, Tarboro, N. C., wants to contract for steam-heating apparatus for four-story office building.

Ice Plant.—Robt. P. Howell, Lake Arthur, La., wants estimates on 15-ton ice plant, also description of machinery.

Iron-bed Factory.—L. Blair, Roanoke, Va., wants information regarding the operation of an iron and brass bed factory.

Lath Machinery.—Decatur Lumber Co., Delko, Ga., wants machinery for making laths.

Lath Mill.—Lugoff Hardwood Co., R. R. Team, manager, Lugoff, S. C., wants second-hand lath mill in good running order.

Laundry Machinery.—R. A. Mitchell, Alabama City, Ala., wants addresses of manufacturers and dealers in laundry machinery.

Laundry Machinery.—E. I. Carter, Richland, Ga., wants machinery for steam laundry.

Laundry Machinery.—The Plains Steam Laundry, R. S. Cochran, president, The Plains, Va., wants laundry machinery.

Lighting Apparatus.—East Carolina Railway, Tarboro, N. C., wants to contract for prism lights for vault.

Lumber.—Birmingham Terminal Co., Walter H. Harrison, chief engineer, Birmingham, Ala., will receive proposals until October 1 for 9500 hewn post oak, white oak or long-leaf yellow pine crossties, 7x9 inches by 8 feet 6 inches, f. o. b. Birmingham, Ala., or point of shipment; usual specifications; inspection to be made at shipping point. Also for 60 sets of sawed long-leaf yellow pine 7x10-inch switch ties; same conditions as above.

Machine Tools.—Bids will be received until October 9 at Bureau of Supplies and Accounts, Navy Department, Washington, D. C., for furnishing at navy-yards, New York, League Island, Washington, D. C., Norfolk, Va., Charleston, S. C., and Key West, Fla., a quantity of machine tools, etc., as follows: Schedule 148—Wooden boxcar, sandblast outfit. Schedule 149—Crane, testing machine, slotters, grinders, belt lacer, drills, milling machines, drill press, folder, pneumatic hammers, lathes, equipment for lathes, sander, saws, shaper, saw cutter, saw table, planer attachments and tools. Schedule 150—Milling machine, drills, boring mill, hammer, pipe cutter, lathes, shear, slotter, crushing machine, hoisting engine. Applications for proposals should designate the schedule desired by number. Blank proposals will be furnished on application to the Navy Pay Office, New York, N. Y., or to the Bureau; H. T. B. Harris, paymaster-general, U. S. N.

Machine Tools.—Edw. F. Barrows, 542 East Duffey street, Savannah, Ga., wants automatic lathes, emery stands, drill press.

Machine Tools.—Southern Manufacturing Co., Savannah, Ga., wants machine-shop tools.

Mill Supplies.—Southern Manufacturing Co., Savannah, Ga., wants shafting, hangers and belting.

Mill Supplies.—Edw. F. Barrows, 542 East Duffey street, Savannah, Ga., wants shafting, hangers, belting, etc.

Mining Equipment.—Bessemer Coal, Iron & Land Co., Bessemer, Ala., wants prices on equipment for mining coal.

Miscellaneous Supplies.—Bids will be received until October 12 at office of D. W. Ross, general purchasing officer Isthmian Canal Commission, Washington, D. C., for range boilers, wiring machine, hammer dies, hardware, pipe tools, boat hooks, ship scrapers, calking irons, shackle bars, timber carriers, shears, wagon jacks, blow torches, cocks, lubricator glasses, watchmen's watches, sheet steel, sulphate of copper, calendars, etc. Blanks and general information relating to circular (Circular No. 332) may be obtained from office of general purchasing officer, Washington, D. C., or at offices of assistant purchasing agents, 24 State street, New York; Custom-house, New Orleans, La.; also from Chief Quartermaster, Chicago; Depot Quartermaster, St. Louis; Depot Quartermaster, Jeffersonville, Ind.; Chief Quartermaster, Atlanta, Ga., and the Commercial Club, Mobile, Ala.

Mixing Machinery.—See "Paint Machinery."

Mop Machinery.—C. J. R., P. O. Box 207, New Orleans, La., wants addresses of manufacturers of machinery for making mops.

Oil-mill Equipment.—See "Sacker."

Oil-mill Machinery.—Craven Chemical Co., C. E. Fox, manager, Newbern, N. C., wants equipment for cottonseed-oil mill.

Paint-Factory Equipment.—Mathews Bros., Norfolk, Va., want an oil mixer and grinder for paint factory.

Paint Machinery.—W. T. Stigleman, Snowville, Va., wants a machine for grinding and mixing soft ores with oil and a machine for grinding hard ore to be used in the manufacture of paint from red oxide of iron ore; machinery to be not over five horse-power.

Paper-box Machinery.—Newton Hosley Co., D. J. Carpenter, proprietor, Newton, N. C., wants paper-box machinery.

Paving.—City of Moss Point, Miss., A. H. Smith, Mayor, will let contract for paving about 3000 yards of concrete sidewalk.

Piping.—Bids will be received until October 1 at the office of Henry B. F. Macfarland, John Biddle, Commissioners, District of Columbia, Washington, D. C., for furnishing the District Government with 7000 feet, more or less, of 24-inch terra-cotta sewer pipe and 3600 feet, more or less, of 21-inch terra-cotta sewer pipe; all to be in three-foot lengths of the ring pattern, without rings. Specifications, blank forms of proposal and all necessary information may be obtained at office of the property clerk District of Columbia, District Building.

Plumbing.—See Building Note under Yazoo City, Miss.

Plumbing.—East Carolina Railway, Tarboro, N. C., wants to contract for plumbing for four-story building.

Plumbing.—Bids will be received until October 16 at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., for the installation of a plumbing system in Building No. 2, Navy-yard, Charleston, S. C. Applications for proposals should refer to Schedule 168. Copies of plans can be obtained on application to commandant, Navy-yard, Charleston, S. C. Blank proposals furnished on application to Navy Pay Office, Charleston, or to the Bureau; H. T. B. Harris, paymaster-general, U. S. N.

Power Plant.—John C. Hand, Cedartown, Ga., wants estimates on power plant for cotton mill working up six to eight bales of cotton daily into yarn. (See "Cotton-mill Machinery.")

Pumping Plant (Electrical).—Bids marked "Proposals for Electrical-Driven Turbine Pumps" will be received until October 11 at the office of the Savannah Water Department, Savannah, Ga., for furnishing and installing one complete electrical-driven pumping plant, consisting of one 3,000,000-gallon turbine pump direct connected to a 150-horse-power 2200-volt two-phase induction motor automatically controlled. Pump to be connected to section pipe from wells, and the discharge pipe from pumps to be connected to 24-inch main leading from water-works building. The river section will also be connected to pump. Pumps and motors to be of best standard make. Bids are also asked for a duplicate plant as specified above. Bidders must state time of delivery. I. U. Kinsey is superintendent.

Quilting-machine Frames.—D. E. Whetstone, Lake City, Fla., wants addresses of manufacturers of quilting-machine frames used in making quilts and comforters.

Railroad Construction.—Bids will be received until October 15 at the office of W. S. Dawley, chief engineer of the Allegheny Improvement Co., 820 Security Building, St. Louis, Mo., for grading and bridging of a portion or all of a 75-mile extension of the Missouri & North Arkansas Railroad from Leslie to Pangburn, Ark. Profile and specifications on file at chief engineer's office; usual rights reserved.

Railway Equipment (Electric).—Morgantown & Southern Railway Co., J. W. Wiles, president, Morgantown, W. Va., will purchase about October 20 equipment for electric railway.

Railway Equipment.—Columbia Clay Works, M. L. Fellmer, vice-president and general manager, Columbia, Ill., wants prices on relaying rails, railroad ties, switching engine (second-hand).

Railway Equipment.—Cairo & Kanawha Railway Co., C. B. Kefauver, secretary and general superintendent, Parkersburg, W. Va., will purchase flat and box cars, 36-inch gauge, and 40-pound relaying rails.

Railway Equipment.—Baldwin Equipment & Supply Co., 904 Fisher Building, Chicago, Ill., wants two small standard-gauge locomotives and some narrow-gauge freight cars.

Railway Equipment (Electrical).—Corinth & Shiloh Electric Railway Co., care of W. W. Williams & Co., First National Bank Building, Nashville, Tenn., wants rails and supplies for electric railway.

Road Culverts.—Boyd county will let contract for 14 concrete road culverts ranging from 23 to 138 cubic yards each; John McDyer, Catlettsburg, Ky., road and bridge supervisor.

Road Machinery.—Andrew D. Fuller Company, C. A. Sawyer, Jr., resident manager, Room 162 Benbow Arcade, Greensboro, N. C., wants macadam-road building equipment; also wants several good grading and macadam foremen.

Roller.—See "Asphalt Plant."

Roofing.—L. B. Turner, Oxford, N. C., wants dealers' prices on all grades of tin and metal shingles.

Sacker.—H. P. Efrid, general manager Big Lick Cottonseed Oil Mill Co., Big Lick, N. C., wants a new or second-hand 100 to 125-bushel sacker; immediate delivery.

Safe.—Fuller Combining Gin Co., Charlotte, N. C., wants to purchase a safe.

Sawmill.—B. F. Duncan, Columbia, N. C., wants a sawmill.

Sawmill.—Arkansas Land & Development Co., E. P. Young, secretary, Little Rock, Ark., wants a portable sawmill capable of cutting the heaviest timber.

Scales.—Southern Manufacturing Co., Savannah, Ga., wants scales.

Sewerage System.—Henry B. F. Macfarland, John Biddle, Commissioners District of Columbia, Washington, D. C., will receive bids until October 18 for constructing sewers. Forms, specifications and necessary information may be obtained at Room 43 District Building, Washington, D. C.

Shingle Machine.—B. F. Duncan, Columbia, N. C., wants a second-hand shingle machine for sawing barrel heads.

Shingle Mill.—See "Woodworking Machinery."

Spoke Machinery.—See "Woodworking Machinery."

Steam Plant.—City of High Point, N. C., M. J. Wrenn, Mayor, is in the market for steam-power plant to operate city electric-light plant. Will need one 150-horse-power engine and several 100-horse-power boilers.

Stone Crusher.—Big Stone Gap Pressed Stone Co., Big Stone Gap, Va., wants stone crusher to crush sand and lime stone for concrete blocks.

Tank.—Bids will be received until October 15 at the office of Capt. R. H. C. Kelton, quartermaster, Fort Monroe, Va., for the construction of a 50,000-gallon steel water tank at Fort Monroe. Bidders must state names of manufacturers they propose to purchase supplies from. Information furnished on application. United States reserves usual rights.

Tanks.—Columbia Clay Works, M. L. Fellmer, vice-president and general manager, Columbia, Ill., wants prices on water-storage tanks.

Theater Equipment.—J. C. Corbett, Box 682, Gulfport, Miss., wants prices on all interior fixtures for theater.

Tiling.—W. K. Holt, Supervisor Horry county, Conway, S. C., wants to purchase 12 to 24-inch tiling for road drainage.

Traction Engine.—Bids will be received until October 1 by W. W. Downing, clerk, Raymond, Miss., for traction engine. All manufacturers wishing to bid are requested to have representatives before the Board of Supervisors of Hines county at the October meeting.

Vault Door.—H. W. Caldwell and E. D. Roberts, Lagrange, Ga., want prices on one vault door.

Woodworking Machinery.—R. E. Lufsey, 123 North Shaver street, Salisbury, N. C., wants a shingle mill, a drag saw and a bolter.

Woodworking Machinery.—N. E. Ramsey, Lincolnton, N. C., wants new or second-hand 12-inch surface planer and other woodworking machinery.

Woodworking Machinery.—Edw. F. Barrows, 542 East Duffey street, Savannah, Ga., wants catalogues and price-lists on machinery for novelty woodworking plant.

Woodworking Machinery.—Virginia Table Works, Inc., W. L. Lincoln, president, Marion, Va., wants full line of machinery for making tables, directly and indirectly driven by motors.

Woodworking Machinery.—J. H. Edwards, Decatur, Ala., solicits information regarding marketable hardwood articles and the machinery required for manufacturing them.

Woodworking Machinery.—Dunn Hardwood Manufacturing Co., Dunn, N. C., wants a good second-hand door planer and one stacker.

Woodworking Machinery.—J. M. Hook, Batesburg, S. C., wants spoke, handle and rim machinery and benders for rims.

INDUSTRIAL NEWS OF INTEREST

Now Has Dallas Office.

Buyers of electric lamps in the field tributary to Dallas, Texas, should be interested in the announcement that the Buckeye Electric Co. of Cleveland, Ohio, has established an office at Dallas. This new branch is at 216 Commerce street, H. E. Wells being in charge.

Electric and Ice Plants Offered.

The owners of an electric lighting and ice manufacturing plant in a Southern city of 2000 inhabitants offer their property for sale. They state that the industries are on a profitable basis and there is opportunity for growth. For details address Lock Box D, Flemingsburg, Ky.

Lumber Plant and Timber.

A lumber plant and 1000 acres of timber land in Georgia is offered for sale. The sawmill is said to have a capacity of 30,000 to 40,000 feet, and, together with the lands, barns and other necessary buildings, is located on the Southern Railway near Macon. For particulars address J. S. Morton, West Lake, Ga.

Mr. Leslie P. Lehmann.

An interesting announcement is made by Leslie P. Lehmann of Messrs. G. W. Lehmann & Son, established 1865, Baltimore, Md. Mr. Lehmann states that he succeeds to the business of himself and his father (whose death occurred recently) as analytical and consulting chemist. The laboratory will be continued at 114 East Lexington street and the offices at 511 Equitable Building.

Lumber Plant for Sale.

A complete modern plant for manufacturing spokes and lumber in general is offered for sale. It includes buildings, machinery, power plant, electric-lighting equipment, etc., all located near ample supply of raw material for making furniture, boxes, handles, baskets, etc. Address Ohio Fowler, secretary Kuttawa Commercial Club, Kuttawa, Ky.

Location for Oil Engine Works.

It is stated that the Remington Oil Engine Co. of 41 Park Row, New York city, is now investigating throughout the South for the purpose of determining upon a location for its proposed kerosene-oil-engine works. Mr. Walcott Remington of Stamford, Conn., is president and engineer of the company. John B. Wheaton of Norfolk, Va., is agent in the South.

Proud of This Contract.

The Atlas Engine Works of Indianapolis has received an order from the Straight Line Engine Co. of Rochester, N. Y., for Atlas water-tube boilers. The prominence of Professor Sweet of the Straight Line Company in engineering circles makes this order a particularly desirable one, and the Atlas company is justly proud of securing the contract.

To Display Smoke-Consuming Device.

Another exhibitor is announced for the Philadelphia Bourse at Philadelphia, Pa. It is the National Smoke Consumer Co. of 125 Mohawk street, Buffalo, N. Y. This company has taken offices and space for

displaying its smoke-consuming device. Manufacturers who may wish to be informed regarding the facilities of the Bourse are invited to write to W. H. Rogers, superintendent of the exhibition department.

Construction Proposals Wanted.

Proposals are wanted by the Columbus & Hocking Clay Construction Co. of Columbus, Ohio, on the erection of a number of buildings for a brick plant. Structures will include central power station, machine shop, factory building, drier, two fan houses, six rectangular kilns, one continuous kiln, two stock sheds and employees' cottages. Address R. A. Magly, general manager, office in New First National Bank Building, Columbus, Ohio.

A 150-Ton Scale Completed.

There has been completed for the Pennsylvania Steel Co. a scale said to be the largest ever built east of the Mississippi river. The equipment is 46 feet long, has a capacity of 150 tons, and is to be used for weighing structural iron work. Another scale of the same size is being built for the Pennsylvania Company. An interesting fact in connection with these scales is that they are constructed by the Standard Scale & Supply Co. of Philadelphia, Pa.

Iron and Zinc Properties.

Capitalists who may contemplate becoming interested in the development of Southern mineral resources are advised that Tennessee iron and zinc properties said to be of large extent and value are offered for sale. The Tuckahoe iron property of 4000 acres is on the market. It is easily accessible to coking fields. The zinc-bearing tract comprises 2000 acres, located on the Southern Railway. A full report on the properties, together with terms of purchase, can be obtained by addressing J. W. Adams, Chattanooga, Tenn., or F. I. Stone, Atlanta, Ga.

New Electric Lamp for Factories.

Manufacturers who have adopted electricity for lighting their plants are naturally interested in improved forms of lamps claimed to effect economies and at the same time give the efficiency desired. They know that new electric lamps are being introduced from time to time, and they should not fail to investigate the new Shelby "Useful Light" factory lamp. This lamp is manufactured by the Shelby Electric Co. of Shelby, Ohio. It is guaranteed to give more light than other 16-candle-power lamps, and anyone having a commercial rating who will state voltage and base will be furnished a sample for trial.

Installing Bonar Oiling Systems.

James Bonar & Co., Inc., of Pittsburgh, Pa., are installing seven Bonar automatic oiling systems for the Bethlehem Steel Co.'s new plant at South Bethlehem, Pa. They have just completed a system for the McClintic-Marshall Construction Co., Pittsburgh; one for the Pittsburgh Plate Glass Co., Ford City, Pa., and one for the Ellsworth Coal Co., Ellsworth, Pa. The Bonar systems are being used by Carnegie Steel Co., Jones & Laughlin Steel Co., American Sheet & Tinplate Co., United States Government, Pittsburgh Railways Co. and many others. The Bonar catalogue on oil filtration is interesting and gives full information regarding the systems.

B. M. Root Company Agencies.

There is such an increasing demand for the saw tables and saw benches, especially the portable saw tables, manufactured by the B. M. Root Company of York, Pa., that the company has purchased site and begun the erection of an addition to its plant. In order to meet the needs of purchasers a number of agencies have been established, including the following: For State of Florida, Malsby Machinery Co. of Jacksonville, Fla.; for Georgia and Alabama, American Manufacturing Co. of Atlanta, Ga.; for Louisiana and Mississippi, C. P. Young Engineering & Supply Co., New Orleans, La., and for Eastern Ohio and Western Pennsylvania, Wilcox & Peters, Box 833, Pittsburgh, Pa.

Minneapolis Steel & Machinery Co.

After an existence of four years the Minneapolis (Minn.) Steel & Machinery Co. finds the demand for its product extensive and continually on the increase. Steel framework for buildings is especially produced in large quantities by the company, and it ships its product to all parts of the country, some of its single contracts having amounted to several hundred thousand dollars. The shops have an output of 2100 tons of finished material every month, and 300 men are employed. This material goes to Western, Southern, Mexican and Cana-

dian consumers. The company is prepared to extend its trade to all parts of the South, and invites purchasers in that section to obtain estimates for their contracts.

Purchased Reynolds Corliss Engines

The Allis-Chalmers Company, Milwaukee, Wis., has sold to Wm. Cameron & Co., Waco, Texas, a 12x36-inch Reynolds Reliance Corliss engine, to be used to drive planing-mill machinery and operate at a speed of 85 R. P. M. non-condensing, under a steam pressure of from 80 to 130 pounds, the engine fly-wheel to measure 10 feet in diameter and weigh approximately 6300 pounds. The Kansas City (Mo.) Cotton Mills Co. will install a 22x36-inch Reynolds Reliance Corliss engine, bolted type, recently bought from the Allis-Chalmers Company. This engine will operate at a speed of 130 R. P. M. non-condensing, under a steam pressure of from 110 to 115 pounds, and is intended for belted connection to the line shaft driving the cotton mill.

Contracts for Tube Mills.

What is said to be the largest single contract ever placed for tube mills, for the grinding of cement clinker, is one recently placed by the United States Steel Corporation. This order calls for 47 tube mills, 5 feet in diameter by 22 feet in length. Twenty of these are to be installed in the plant of the Carnegie Steel Co. at Homestead, Pa., and 27 are for an extension to the cement plant of the Illinois Steel Co. at Buflington, Ind. This entire order was awarded to the Power & Mining Machinery Co., Cudahy, Wis. In addition to the contract for the 47 tube mills above mentioned, the Power & Mining Machinery Co. has also received an order for 14 tube mills, 5x22 feet, and a complete crushing plant, consisting of large and small crushers and rotary screens, for the new plant of the Sandusky Portland Cement Co. at Dixon, Ill.

Enlarging Southern Brick Plants.

Continued activity in the construction of buildings throughout the South is calling for large quantities of brick, and the brick manufacturers of that section are enlarging their plants in order to meet the demand. Considerable brick machinery used in Southern plants is built in the South, Messrs. J. C. Steele & Sons of Statesville, N. C., being well-known makers of modern brick manufacturing equipments. This firm has recently made the following sales: Chattahoochee Valley Brick Co., Omaha, Ga., increased capacity by a Steele No. 5 brick machine; Financial & Commercial Co-operative Co., Fort Gaines, Ga., No. 4 brick machine, pug mill, disintegrator, granulator, etc.; E. A. Poe Brick Co., Fayetteville, N. C., installed another No. 4 machine, an exact duplicate of one purchased last year; Piedmont Brick Co., Lowell, N. C., installed 40,000-daily-capacity plant, including No. 4 machine, pug mill, disintegrator and granulator.

For Fire Protection.

One of the most important questions that confront the owners of factory buildings, as well as structures of other classes, is protection from fire. Modern ingenuity has introduced a number of successful mechanical equipments for fire protection, together with devices of a simple nature which aid in extinguishing incipient blazes and thus prevent disastrous fires. Prominent among these simple devices is the Safety Fire Bucket Tank manufactured by the Safety Fire Extinguisher Co. of 29 West 42d street, New York. Each tank contains six buckets filled with a chemical solution which in contact with flames forms a gas with a fire-destroying capacity equal to many times the same quantity of water. This solution does not foul, evaporate, freeze or lose its efficiency with age; it is entirely harmless, and contains no acid. Each bucket is on top of the other, and as one is taken out for use the next rises automatically. There are various other features embodied in this tank and bucket combination which everyone interested in fire protection should know. In order to be so informed, write the company for a copy of illustrated booklet. Many prominent enterprises throughout the country are equipped with this safety fire-bucket tank.

Clinton Fireproofing Materials.

Mr. Albert Oliver, manager of the fireproofing department of the Clinton (Mass.) Wire Cloth Co., has moved from 150 Nassau street to more commodious quarters in Metropolitan Life Building, 1 Madison avenue, New York. It is largely due to Mr. Oliver's energy, backed by the excellence of the products which he is handling, that Clinton electrically-welded fabric and Clinton wire lath have become widely-used building materials among leading architects, engineers, builders

and contractors. The scope of the Clinton products is shown by the following, representing a few of the more important structures in which they have been used throughout: Electric-power house of New York Central Railroad at Yonkers, N. Y.; plant of St. Croix Paper Co., Sprague Falls, Maine; Hamburger Building, Sonneborn Building, Fish and Produce Markets, Baltimore, Md.; City Hall, Newark, N. J.; new plant of American Can Co., new plant of Merchants' Refrigerating Co., Hermitage Building, Tichenor-Grand Company's stable, Bliss residence, addition to Long Acre Hotel, New York; United States naval coaling station, Sangley Point, Cavite, P. I.; harbor freight sheds, Montreal; new plant of Singer Manufacturing Co., St. Johns, Quebec; Wells-Fargo Building, Portland, Ore., and Fairmount Hotel, San Francisco, Cal.

A Twenty-Fifth Anniversary.

A record of continuous growth from a small beginning to one of the most modern and extensive manufacturing plants of its class in the country is something to be proud of. This is the record of the Ball Engine Co. of Erie, Pa., now celebrating its 25th anniversary, the quarter of a century having been occupied in building high-grade steam engines and nothing else. What signal success the Ball engine has met with among the power users of the world is well known to those who are at all acquainted with the progress of that section of the mechanical industries where the generation of power is an important factor in obtaining results. In 1881 the Ball engine was first introduced by Frank H. Ball, his design being intended to meet the demand which the growing use of electricity was creating for a steam engine perfectly adapted to the new field of application. Improvements to and the perfection of the first design, since improved from time to time as new conditions and apparatus made it necessary, have caused the Ball engine to become the basis of a large and important industry. A varied line of patterns enables the Ball Engine Co. to build engines exactly suited to the different generators now on the market. Both automatic and Corliss four-valve engines are built at the works in Erie. An "Anniversary Booklet" of interest has been issued by the company.

Fisher Hydraulic Stone Machinery.

The demand for concrete stone in the building trades continues to be active and is steadily increasing every day. Architects, building contractors and owners of various kinds of buildings contemplated are specifying concrete stone, and the future of the new building material is evident. The manufacture of the machinery for making concrete building stone has become an industry in itself, and prominent in this branch of activity is the Fisher Hydraulic Stone & Machinery Co. of Baltimore, Md., which furnishes complete plants for making hydraulic pressed concrete stone with the Fisher hydraulic stone machinery. The company is placing its design of equipments in all parts of this country, as well as in foreign countries. Its most recent contracts included a plant for the Spokane (Wash.) Hydraulic Press Stone Co.; for the Southern Hydraulic Stone Co. of Galveston, Texas; for G. R. Morrow and associates of Highspire, Pa., and A. O. Leighton and associates of Belfast, Ireland. Mr. Leighton came to this country, representing one of the largest general contractors in Great Britain, for the purpose of investigating the Fisher process, the Fisher machinery, the stone produced, and to examine buildings erected with Fisher hydraulic concrete stone. The Fisher Hydraulic Stone & Machinery Co. expects this contract to be followed by many others in foreign lands.

Homemade Steel Structure for Richmond.

An interesting letter has been received from the Richmond Pattern and Structural Iron Works of Richmond, Va., saying the company "has started the erection of the large steel skeleton building for the Southern Bell Telephone & Telegraph Co.'s office building. The erection is being done by experienced ironworkers, and they are making rapid progress, as the building is now well under way. This is the first steel skeleton-frame building which was ever designed, manufactured and erected by a Richmond concern, and it is being watched with a great deal of interest by the leading contractors of this city, as heretofore work of this character has been done by the large iron concerns of the North. Having started from a small beginning, this concern has developed to one of the largest structural-iron plants in the South. It is equipped with all modern machinery for the fabrication of iron and steel work, and has lately installed a

modern air plant for all its heavy-riveting work. It carries in stock for immediate delivery all sizes and shapes of plates, bar iron and structural steel, and gives employment to a large force of skilled labor. A great quantity of the structural steel and ornamental iron being used throughout the South is furnished by this successful enterprise, which has also many large buildings now under construction in the State of Virginia."

As to Expert Accounting.

"It is in the office, where the slip of the pen, the misapplication of a single figure, might incur the loss of thousands of dollars, that errors occur somewhere every day, and whether on account of carelessness or inefficiency, oversight or design, have wrecked many an enterprise. This being true, the systematic and periodical auditing of books and accounts by competent and reliable yet disinterested auditors is not only of great value to those whose money is invested, but is of paramount importance, and besides the positive knowledge of the true condition of books and accounts, and hence the entire business standing, whether absolutely perfect or perplexingly irregular, must be a source of great satisfaction. Do you know the exact status of your business? Are you satisfied with your present system of accounting, and do you know it to be the best adapted to your particular line of business? The way to answer all these questions intelligently is to have your books audited and systematized by reliable, competent and disinterested accountants." The foregoing is adapted from a recent publication by the Manufacturers' Record. It contains facts of interest to men engaged in business where the keeping of accounts is required—practically every enterprise. The management that realizes the truth of the statements has next to consider what accountant, whether individual, firm or corporation, it will employ to audit its books and accounts. In this connection it is permissible to refer to the Empire City Audit Co. of No. 1 Madison avenue, New York. Its field includes accountancy, auditing, consultation, financial statements, contracts and organization of corporations. Upon the company's staff are ex-bank officials and examiners, railway engineers and auditors, corporation accountants and auditors. Mr. W. H. Spencer is president; Edmund Wilcox, treasurer, and Howell T. Wood, attorney and vice-president. All parts of the country are served by the company, and correspondence is invited.

The Mining Industry.

That the mining industry is sharing to a large extent in the prosperity that is now general all over this country is amply evidenced by the vast amount of new machinery that is being purchased and shipped into the mining districts. Among the orders for this class of machinery recently booked by the Power & Mining Machinery Co., Cudahy, Wis., may be mentioned the following: 24 sets of 36x16-inch crushing rolls and four sets of 54x20-inch crushing rolls for Utah Copper Co., Garfield, the 54x20-inch rolls to be the largest and most powerful ever built for mining purposes; three additional converter stands and nine shells for Detroit plant of Copper Queen Consolidated Mining Co. at Morenci, Ariz., one of the largest producers of copper in the world; an interesting feature in connection with this installation is the elimination of the usual pressure pumps and accumulators, as the hydraulic power for tilting the converters will be taken direct from the reservoir in the mountains through the high-pressure pipe line; 11 6-foot Chilian mills for Real del Monte y Pachuca, Pachuca, Mex.; six 6-foot Chilian mills for Golden Cycle Mining Co., Colorado City; 60 agitators for United States Mining Co., Salt Lake City; three 48x24-inch water-jacketed copper furnaces for British Columbia Copper Co., Greenwood; three 56x24-inch water-jacketed copper furnaces for Balaklava Consolidated Mining Co., Redding, Cal.; two 46x162-inch copper and lead furnaces for Oaxaca Smelting & Refining Co., Mexico; one 56x180-inch water-jacketed copper furnace for Arizona Smelting Co., Humboldt; two converter stands, electrically driven, and four shells 36x108 inches, also five 10-ton matte ladles, for Selby Smelting & Lead Co., South San Francisco; four converter shells, 84x126 inches, for Colusa Parrott Mining & Smelting Co., Butte, and two converter shells, 84x126 inches, for Shannon Copper Co., Clifton, Ariz.

TRADE LITERATURE.

Machine Tools and Supplies.

A series of posters issued by the Edwin B. Stimpson Company of 31 Spruce street, New York, will interest users of punching ma-

chines, wire stitchers, eyeletting machines and various others. It illustrates and describes in brief the machines named, as well as rivets, eyelets, grommets, sheet-metal articles of many kinds, foot and power presses, perforating machines, gang-punching machines, tab-cutting machines, etc.

Cotton Chats for August.

The textile manufacturer who reads "Cotton Chats" is sure to learn something of value to him in the conduct of his mill. The August number tells about the uses of the warper clock, buying cotton, profit for all, tests and tests, etc. Weaving machinery especially is talked of in "Cotton Chats." Write the Draper Company of Hopedale, Mass., for a copy.

"The Locomotive."

"The Locomotive" is published by the Hartford Steam Boiler Inspection & Insurance Co. of Hartford, Conn. It presents data that is of interest to the user of steam power and has a wide circulation in the power world. The character of its contents may be indicated by a reference to the articles in a recent edition, namely, suspension of horizontal tubular boilers over furnaces by hangers, the abuse of valves, the properties of steam, etc.

W. F. Nye Oils.

The W. F. Nye oils for lubricating purposes are listed in an attractive illustrated pamphlet now being distributed. Their superior features are told and the special places in which the different kinds effect the best results are clearly indicated. This information is of value to the dealer in lubricants as well as to the user of such products, and people who are not acquainted with W. F. Nye oils should investigate. Write to Wm. F. Nye, New Bedford, Mass.

Plain Talks on Roofing.

There is published every month a little magazine which contains some plain talks on roofing materials. Its every number presents information which dealers in roofing materials, architects for buildings, contractors for erecting the structures and the owners thereof will find of assistance and value in selecting roofing for any kind of building. "The Ridgepole" is sent out by Messrs. J. A. & W. Bird & Co. of Boston, Mass., who invite requests for the September number.

Devoted to Better Illumination.

A magazine devoted to better illumination is "Lamp-oon," and the current number, that of September 5, contains interesting information for people who want to be advised regarding the latest improvements in incandescent electric lamps. Of especial interest is the data presented as to the Sterling tantulum lamp, which is destined to become widely used because of the desirable features it embodies. The Sterling special and the Sterling gem lamps are also told of in "The Lamp-oon." Write the Sterling Electrical Manufacturing Co., Warren, Ohio, for a copy.

Its Literature Always Attractive.

The trade literature of the American Blower Co. of Detroit, Mich., is always of an attractive character. This is called to mind by a glance through the pages of the company's miniature catalogue No. 173, which merely aims to give a slight insight into the various branches of the American Blower apparatus, more especially the "ABC" fan system of heating and ventilating and the apparatus employed in connection with same. Heaters, fans, blowers, blast gates, return traps, dry-kilns, etc., are briefly referred to in the catalogue and the wide range of application of these products is indicated.

For Machine Woodworkers.

Those machine woodworkers who are not acquainted with the scope of "The Mechanic" should know that it is a publication devoted to their interests. The journal is issued monthly, and contains timely articles relative to modern woodworking operations and the machinery used. It presents a fund of information which progressive woodworkers should be conversant with if they want to keep fully informed as to the latest developments in machines for woodworking. Write the publisher, the H. B. Smith Machine Co. of Smithville, N. J., for a copy. This company is the well-known maker of woodworking machines.

K. & T. Steam Specialties.

The K. & T. steam specialties for heating and power plants are listed in a new catalogue now being distributed. A general outline, with concise descriptions and purposes for which they are intended to be used, are presented. The manufacturer's aim has always been to produce only the highest-

grade apparatus that is accurate and reliable and that will meet the demands of advanced engineering. That these desirable features are embodied in the specialties is evidenced by the constantly-increasing demand for K. & T. equipments. Pressure regulators, back-pressure valves, exhaust relief valves, condensation receiver and pump regulators, balanced valves, float-tank valves, steam traps, grease and oil traps, automatic stop and check valves are included in the offerings. These specialties are manufactured by the Klipfel Manufacturing Co., 74 West Lake street, Chicago, Ill., where requests for catalogues may be addressed.

Allis-Chalmers Air Compressors.

The Allis-Chalmers Company of Milwaukee, Wis., has taken a leading position in the manufacture of high-duty air compressors. It claims to have been the first to combine the reliable and economical steam engine, the Reynolds-Corliss, with the most efficient type of air compressor. The result of the company's many years of experience is embodied in the line of machines described in illustrated bulletin No. 1507, and they are offered to intending purchasers with the claim, supported by what has been accomplished, that for reliability, economy, durability and minimum cost of operation and maintenance they are all that the most exacting buyer will demand.

Hunters Will Soon Be There.

Although the big-game hunting season of 1906 will not be in full swing for several weeks yet, there are hundreds of sportsmen who already have practically made their arrangements for a trip into the wilderness. One of the most attractive sections of the country to the hunter is the Maine woods, and the Boston & Maine Railroad conveys great numbers of sportsmen there every fall and winter. The company's Boston & Maine Messenger for September is now being distributed, and it contains timely hints and information for the man who contemplates a trip to the forests and streams of the Maine woods. Write the Passenger Department, Boston, Mass., for a copy.

Goulds Efficient Power Pumps.

The latest booklet of the Goulds Manufacturing Co. of Seneca Falls, N. Y., is simply an advance catalogue, and only covers a small part of the company's complete line of power pumps. Pumps of the Goulds manufacture are used throughout the world by the most exacting operators, who have found them to have the efficiency and economic factors which their builder claims. Not only pump users and dealers, but also architects and engineers should have a copy of the complete Goulds catalogue of pumps. The larger catalogue is an authoritative volume on all branches of power pumping, illustrating many applications of pumps in operation, together with complete and convenient arrangement of tables. Information concerning the general operation of pumps, tables for equalizing pipes, friction of water in pipes and other valuable data which is not usually found outside of the standard engineers' reference books. If you have not received one, write the company.

A Specially-Arranged Generator.

The Crocker-Wheeler Company, Ampere, N. J., has just published Bulletin 69, describing a specially-arranged generator for direct connection to steam or gas engines. The company has taken its celebrated form I machine, which as a motor is well known in the machine-tool field, and has made some modifications in the design which brings the machine into the market as a dynamo. These generators are built in sizes to give outputs of 1½ kilowatt to 19 kilowatt and meet the demand for small direct-connected units for isolated plants and residences. The commutator end of the shaft is carried in a bearing supported by a rigid bracket, which is bolted to the side of the frame, and the inner end of the shaft is finished to receive the engine coupling. For the convenience of those who wish to purchase complete generating sets the Crocker-Wheeler Company has arranged with a number of the leading engine builders to supply complete direct-connected sets with Crocker-Wheeler generators. Bulletins illustrating these special combinations are to be obtained from any of the branch offices of the company.

The Austin Drainage Excavator.

The operation of the Austin drainage excavator is based on the principle that a ditch is only perfectly made when it is cut perfectly true to grade with the banks sloped to a desired angle, with banks and bottom left as firm as nature made them, and when the waste banks are made at a sufficient distance from the ditch to prevent caving. Experienced contractors for excavation work will

readily realize the merits of such a machine. Many of them are already profiting by the principles of the Austin equipment. For digging drainage and irrigation ditches and building levees the Austin drainage excavator has been largely used, and the success with which it has met, having been adopted on some of the most important work ever undertaken in this country, is known to experts in excavation construction progress during recent years. The F. C. Austin Drainage Excavator Co., Chicago, Ill., manufactures the Austin drainage excavator. It is now distributing an illustrated and descriptive pamphlet which tells all the details which the possible purchaser of such an equipment needs in order to guide him in awarding his contract.

Preventing Dampness of Porous Materials.

One of the ends aimed at in constructing walls, whether of brick, concrete or other material, is to prevent dampness and moisture. Various ways and means have been offered to effect this waterproofing, and in this connection it is timely to call attention to "A Way to Prevent Damp Walls," a publication issued by the Standard Waterproofing Co. of 709 West Washington street, Indianapolis, Ind. This little book explains the company's method of preventing dampness and moisture of any porous material, whether it is cement walls, concrete or sand-lime bricks. The company manufactures the Standard waterproofing, a liquid which has proven its effectiveness in actual use. The liquid isn't intended merely to smear over the surface, but it goes right into the brick or concrete and becomes a part of it in a few minutes after being put on. It is stated that no oil is used and that the liquid will not stain or discolor or catch dirt and dust blown on it. Standard waterproofing is used for building walls, vaults, sewers, cellars and reservoirs. Write the company for a copy of the booklet.

Improved Cube Concrete Mixer.

Increasing demand every day for concrete for all kinds of construction purposes has prompted inventors to give their efforts to perfecting the machinery needed for concrete manufacturing. A prime factor in the making of concrete is the mixer, and, consequently, this machine has been given considerable attention. An improved machine in this class is the Chicago Improved cube concrete mixer, manufactured by the Municipal Engineering & Contracting Co. of Chicago, Ill. It has met with wide success, its merits being now generally known to many contractors, engineers and builders. But there are doubtless many other workers in fields where concrete mixing is required who are not aware of the features of the Chicago Improved cube concrete mixer. It is this class who will appreciate the complete description of the machine presented in the illustrated pamphlet which the manufacturer is now distributing. The pamphlet is ready for application. It gives not only the facts as to the particular machine which it aims to exploit, but also furnishes information regarding concrete mixing and machinery for that purpose which will interest people concerned in the efficiency of this class of apparatus. Send for a copy.

Ingersoll-Sergeant Rock Drills.

In the foreword of its latest catalogue (No. 45 B) the Ingersoll-Rand Company says: "Supremacy in any industrial line is the inevitable reward of a broadminded policy which looks beyond the first, and possibly heavy, investment to resulting increased economies. In every field of productive activity the end sought is an increase of output—gained also, if possible, with a reduction of cost. The man, machine or method which aids in attaining this end commands the attention of leaders everywhere. The mine, the quarry, the tunnel, the heavy contract—these all are enterprises aiming at definite results to be obtained from certain known conditions. Time was when hand methods were equal to all such undertakings. But today machines and machine methods rule, and in these methods lies the solution of the problem of economical rock excavation. The marked distinction of all Ingersoll-Rand products is economy, simplicity and reliability—qualities which are the very essentials of sustained success. The machines described in the succeeding pages are the standards of all apparatus for rock drilling. They embody the experience gained in building more than 80,000 rock drills of every type, and this experience is the best guarantee of the superiority of present patterns." The company's book also gives tabulated specifications and capacities of each type and size of Ingersoll-Sergeant rock drills, with comments on the work for which each is adapted. Drill mountings of every style and rock-drill ac-

cessories are also listed. A list of 44 questions covering the problems of rock drilling under all conditions is given. A feature of value to the user of drills is the section giving illustrated part lists of every appliance described, with instructions for ordering. The book closes with several pages devoted to tables of useful information on compressed air. It can be obtained from the Ingersoll-Rand Company of 11 Broadway, New York.

Valuable Data on Roofing.

"Indications of a Long Dry Spell" is the significant title of an attractive pamphlet issued by the Warren-Ehret Company of Philadelphia, Pa.; branches in New York, Trenton, N. J.; Pittsburgh, Pa.; Scranton, Pa.; Baltimore, Md., and Charlotte, N. C. The pamphlet presents details of Ehret's slag roofing and photographic reproductions of large and important buildings upon which that roofing has been used. One of the pictures represents the Bellevue-Stratford Hotel, Philadelphia, considered one of the finest buildings of its kind in the world. The roof of this hotel is composed of Ehret slag roofing, and a novel feature of it is that in winter the roof is flooded and is used as an ice-skating rink. It is stated that no leak has resulted from this severe test. Among other buildings of which views are given is the Pennsylvania Steel Co.'s plant, Steelton; Henry Disston & Sons' saw works, Philadelphia; American Tobacco Co.'s plant, Richmond, Va.; Southern Railway office buildings, Washington; Link-Belt Engineering Co.'s plant, Philadelphia; McClintock-Marshall Construction Co.'s plant, Rankin, Pa.; Harrison Bros. Co., Philadelphia; Cramp Ship & Engine Building Co., Philadelphia; Pennsylvania Railroad Co.'s train sheds at Philadelphia, Camden, N. J.; Jersey City and Pittsburgh, and new passenger station at Pittsburgh. Prior to Baltimore's disastrous fire of February, 1904, Ehret's slag roofing had been used to a considerable extent in that city. Subsequent investigations evidenced the advantages of the Ehret system of roofing as a fire retarder, and the demand greatly increased in Baltimore, so that Ehret slag roofing has been laid on many of the new buildings which replaced those burned. The rapid development of the South has been appreciated by the Warren-Ehret Company, and desiring better facilities for handling its growing trade in that section, the company has secured the plant and business of the Charlotte (N. C.) Roof & Paving Co. This acquisition affords the company excellent facilities to care for its operations in the South. It is stated that Mr. John Byrd of Philadelphia will manage the Charlotte office.

Wetzel Automatic Mechanical Stoker

"All smoke is wilful waste. Just step outside; look at your chimney a few minutes and watch the dollars roll away and also note the damage to your own building and those of the community by soot and coal dirt, remembering the while that you pay for both the smoke and the damage it does and that your coal man is collecting regularly." Such an introduction to a pamphlet describing a mechanical equipment that aims to obviate the losses incurred in the smoke nuisance is very likely to cause the reader, if he is interested in power plants, to continue reading in order to ascertain the character of the equipment offered. The pamphlet referred to tells about the Wetzel automatic mechanical stoker, which is said to embody in the highest degree the six prime essentials to a satisfactory equipment of its class—large excess capacity, economy, durability, smokelessness and simplicity of construction and operation. These features are recommending the Wetzel apparatus to discriminating purchasers of machinery for promoting the efficiency and economy of steam-power plants. They are fully detailed, the text being accompanied by photographic views in the pamphlet. The Wetzel Mechanical Stoker Co. of Trenton, N. J., manufacturer of the stoker in reference, invites inquiries for its publication.

Winnfield's Industries.

[Special Cor. Manufacturers' Record.]
Winnfield, La., September 22.

Winnfield, with a population of about 3000, has electric lights, a street-car line under construction, three railroads and another under construction, two sawmills and planers, a machine shop and foundry, a brick plant and a stove factory. Gas and oil are now being developed, and there is an agitation for water-works, a sewerage system and an ice factory, while a brick plant would do well here. We have at

hand what one might call an unbroken forest of timber, pine being the most prominent.

The Cotton Movement.

In his report for September 21 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during the first 21 days of the season was 575,803 bales, a decrease under the same period last year of 230,427 bales. The exports were 224,146 bales, a decrease of 63,563 bales; the takings were by Northern spinners 63,006 bales, a decrease of 16,034, and by Southern spinners 133,213 bales, an increase of 3285 bales.

FINANCIAL NEWS

The MANUFACTURERS' RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS' RECORD,
Baltimore, Md., September 26.

The Baltimore stock market was dull during the past week. In the trading United Railways common sold at 15; the incomes, Maryland Trust certificates, from 70% to 69 1/4; the funding 5s from 89 1/4 to 89; the 4s from 89 1/4 to 89 1/2; Gas 4 1/2s, 90. Seaboard new first preferred was dealt in at 85; the new second preferred at 55 1/2; Seaboard 4s from 86 1/4 to 86; the 10-year 5s at 102, and Cotton Duck 5s from 83 1/2 to 83. G. B. S. Brewing common sold at 9 1/2 to 9 1/4; the incomes from 37 1/2 to 37 1/4, and the 1sts from 60% to 60.

Citizens' Bank shares sold at 30; Commercial and Farmers' Bank, white certificates, 125; Bank of Baltimore, 114 1/4; Marine Bank, 40; Fidelity & Deposit, 137; Maryland Casualty, 56; Union Trust at 55; Mercantile Trust, 138.

Other securities were traded in as follows: Baltimore & Ohio stock, 123 3/4; Northern Central Railway stock, 106 to 105; Comas Cigarette Machine common from 20 to 26; do. preferred from 82 to 85; Atlantic Coast Line Consolidated 4s from 98 3/4 to 99 3/4; Detroit United 4 1/2s from 93 3/4 to 92 3/4; Lexington Street Railway 5s, 101 1/2; Maryland & Pennsylvania incomes, 68 to 67; do. 4s, 92 1/2; United States Rubber, 55 to 55 1/2; Atlantic Coast Line of Connecticut 4s, 90; Consolidation Coal, 96 to 96 1/4; Western Maryland 4s, 84 1/2; Norfolk Railway & Light 5s, 99 1/2; North Carolina 6s, 130 1/2; Houston Oil, 9 to 9 1/4; do. preferred, 44; Baltimore City 3 1/2s, 1930, 103; do. do. 1940, 102 3/4; Portsmouth, Va., 4s, 1930, 97 1/2; Georgia & Alabama 5s, 108 3/4 to 109; Wilmington & Newbern 4s, 97 1/2; Atlantic Coast Line new 4s, certificates, 91 1/2; do. Connecticut 4s, certificates, 90; do. do. 4s, certificates, 5-20s, 90; Atlanta & Charlotte 1sts, 101 1/4; Western North Carolina 6s, 112 1/4; Charleston Consolidated Electric 5s, 94; Atlanta Consolidated Street Railway 5s, 105; West Virginia Central 6s, 106 1/2.

SECURITIES AT BALTIMORE.

Last quotations for the week ended September 26, 1906.

Railroad Stocks.	Par.	Bid.	Asked.
Atlantic Coast Line of Conn.	100	98	95
Georgia Sou. & Fla. 1st Pfd.	100	98	95
Georgia Sou. & Fla. 2d Pfd.	100	78	75
Maryland & Pennsylvania	100	95	92
Norfolk Railway & Light	100	25	18
Seaboard Company Common	100	25	20
Seaboard Company 1st Pfd.	100	82 1/2	86
Seaboard Company 2d Pfd.	100	55	56 1/2
Southern Railway (V. T.)	100	96	95
United Railways & Elec. Co.	50	14 1/2	15 1/2
Bank Stocks.			
Citizens' National Bank	10	29 1/2	31
Commercial & Far. Nat. Bank	100	125	125
Com. & Far. Nat. Bk. Blue Cts.	100	142	142
Drovers & Mech. Nat. Bank	100	240	240
First National Bank	100	148	148
German-American Bank	100	110	110

German Bank	100	107 1/2	110
Maryland National Bank	30	178	180
Merchants' National Bank	100	123 1/2	125
National Bank of Baltimore	100	112 1/2	115
National Exchange Bank	100	178	180 1/2
National Howard Bank	10	12 1/2	12 1/2
National Marine Bank	30	40	41
National Union Bank of Md.	100	113	115
Western National Bank	20	37	37

Trust, Fidelity and Casualty Stocks.			
American Bonding & Trust	50	47 1/2	50
Baltimore Trust & Guarantee	100	130	130
Continental Trust	100	136	136
Fidelity & Deposit	100	135	135
International Trust	100	153	153
Maryland Casualty	25	65 1/2	65 1/2
Mercantile Trust & Deposit	50	138	138
U. S. Fidelity & Guaranty	100	121	121

Miscellaneous Stocks.			
Alabama Con. Coal & Iron	100	60	70
Ala. Con. Coal & Iron Pfd.	100	90	92
Consol. Cotton Duck Common	50	12 1/2	13 1/2
Consol. Cotton Duck Pfd.	50	31	34 1/2
Con. Gas, Elec. Lt. & Power	100	33	34
Con. Gas, Elec. Lt. & Power Pfd.	100	85	86
Consolidation Coal	100	96	96 1/2
G. B. & S. Brewing Co.	100	9 1/2	9 1/2
George's Creek Coal	100	75	80

Railroad Bonds.			
Atlanta & Charlotte 1st 7s, 1907	101 1/2	103	103
Atlan. Coast Line 1st Con. 4s, 1902	95	98 1/2	98 1/2
Atlantic Coast Line (Conn.) 4s	110	110	110
Atlantic Coast Line (Conn.) 4s	110	90 1/2	90 1/2
Carolina Central 4s, 1909	96	96 1/2	96 1/2
Char. Col. & Aug. 1st 5s, 1910	115	115	115
Char. Col. & Aug. 2d 7s, 1910	110	110	110
Columbia & Eastern 6s, 1916	112	112	112
Florida Southern 4s, 1940	95	96	96
Georgia & Alabama 5s, 1945	109	109 1/2	109 1/2
Georgia, Car. & North. 1st 5s, 1929	109	109 1/2	109 1/2
Georgia Pacific 1st 6s, 1922	119	119	119
Georgia South. & Fla. 1st 5s, 1945	111	111	111
Maryland & Pennsylvania 4s, 1961	91 1/2	92 1/2	92 1/2
Petersburg, Class A 5s, 1926	111 1/2	111 1/2	111 1/2
Piedmont & Cum. 1st 5s, 1911	101 1/2	103 1/2	103 1/2
Potomac Valley 1st 5s, 1941	110	112 1/2	112 1/2
Richmond & Danville Gold 6s, 1915	112	112	112
Seaboard Air Line 4s, 1950	85 1/2	86	86
Seaboard Air Line 5s, 10-year, 1911	101 1/2	102 1/2	102 1/2
Seaboard & Roanoke 6s, 1916	105	105	105
Seaboard & Roanoke 5s, 1926	109	109	109
Southern Railway Con. 5s, 1991	114 1/2	114 1/2	114 1/2
Suffolk & Carolina 5s, 1962	100	100	100
Western Maryland new 4s, 1952	83 1/2	84 1/2	84 1/2
West Virginia Central 1st 5s, 1911	106 1/2	107	107
Wilmington & Wel. Gold 5s, 1935	114	114	114

Street Railway Bonds.			
Anacostia & Potomac 5s, 1949	104 1/2	105 1/2	105 1/2
Atlanta Con. St. Rwy. 5s	104	105	105
Central Ry. Ext. 5s (Balto.), 1932	113	113	113
Charleston Con. Electric 5s, 1969	94	94 1/2	94 1/2
City & Suburban 5s (Balto.), 1922	110	111 1/2	111 1/2
City & Suburban 5s (Wash.), 1948	103	103	103
Lake Roland Elev. 5s (Balt.), 1942	113	113	113
Lexington Railway 1st 5s, 1949	102 1/2	103	103
Metropolitan (Wash.), 1925	110 1/2	110 1/2	110 1/2
Norfolk Railway & Light 5s	99 1/2	99 1/2	99 1/2
North Baltimore 5s, 1942	116	116	116
United Railways 1st 4s, 1949	89 1/2	89 1/2	89 1/2
United Railways Inc. 4s, 1949, Cts.	69 1/2	69 1/2	69 1/2
United Railways Funding 5s	88 1/2	89	89

Miscellaneous Bonds.			
Alabama Consol. Coal & Iron 5s	92	94	94
Atlanta Gaslight 1st 5s, 1947	101	101	101
Consolidated Gas 6s, 1910	105 1/2	107	107
Consolidated Gas 5s, 1939	110 1/2	110 1/2	110 1/2
Consolidated Gas 4 1/2s, Cts.	100	100	100
G. B. & S. Brewing 1st 5s	69 1/2	69 1/2	69 1/2
G. B. & S. Brewing 2d Income	37	38 1/2	38 1/2
Maryland Steel 5s	103	104 1/2	104 1/2
Maryland Telephone 5s	93 1/2	96	96
Mt. V. & Woodby Cot. Duck 5s	82 1/2	83	83

SOUTHERN COTTON-MILL STOCKS.

Quotations furnished by Hugh MacRae & Co., Wilmington, N. C., for week ending September 24.

Abbeville Cotton Mills (S. C.)	85	85	85
Aiken Mfg. Co. (S. C.)	85	85	85
Anderson Cotton Mills (S. C.)	104	104	104
Arkwright Mills (S. C.)	123	125	125
Augusta Factory (Ga.)	80	85	85
Avondale Mills (Ala.)	107	110	110
Belton Mills (S. C.)	105	107	107
Bibb Mfg. Co. (Ga.)	122	122	122
Brandon Mills (S. C.)	115	120	120
Cabarrus Cot. Mills (N. C.) new	120	120	120
Chadwick Mfg. Co. (N. C.) Pfd.	102	102	102
Chiquola Mfg. Co. (S. C.)	92	95	95
Clifton Mfg. Co. (S. C.)	122	124	124
Clifton Mfg. Co. (S. C.) Pfd.	103	103	103
Clinton Cotton Mills (S. C.)	138	145	145
Columbus Mfg. Co. (Ga.)	96	101	101
Courtenay Mfg. Co. (S. C.)	90	90	90
Dallas Mfg. Co. (Ala.)	92	95	95
Darlington Mfg. Co. (S. C.)	125	130	130
Eagle & Phenix Mills (Ga.)	125	133	133
Enslay Cotton Mills (S. C.)	80	84	84
Enoree Mfg. Co. (S. C.)	80	81	81
Enoree Mfg. Co. (S. C.) Pfd.	90	101	101
Enterprise Mfg. Co. (Ga.)	86	92	92
Exposition Cotton Mills (Ga.)	200	200	200
Gaffney Mfg. Co. (S. C.)	89	90	90
Greenville Cotton Mills (S. C.)	23 1/2	24	24
Granby Cot. Mills (S. C.) 1st Pfd.	59	60	60
Granville Mfg. Co. (S. C.)	160	160	160
Greenwood Cotton Mills (S. C.)	93	93	93
Grendel Mills (S. C.)	112 1/2	114	114
Henrietta Mills (N. C.)	200	200	200
King Mfg. Co., John P. (Ga.)	97	103	103
Lancaster Cotton Mills (S. C.)	99	104	104
Lancaster Cot. Mills (S. C.) Pfd.	97	99	99
Laurens Cotton Mills (S. C.)	192	170	170
Limestone Mills (N. C.)	115	115	115
Lockhart Mills (S. C.)	101	101	101
Lockhart Mills (S. C.) Pfd.	97	100	100
Louise Mills (N. C.)	90	95	95
Louise Mills (N. C.) Pfd.	102	102	102
Mariboro Cotton Mills (S. C.)	78	80	80
Mayo Mills (N. C.)	104	110	110
Mills Mfg. Co. (S. C.)	104	110	110
Mills Mfg. Co. (S. C.) Pfd.	100	100	100
Monaghan Mills (S. C.)	96 1/2	101	101
Monarch Cotton Mills (S. C.)	94	96	96
Newberry Cotton Mills (S. C.)	118	118	118
Norris Cotton Mills (S. C.)	106	110	110
Odeff Mfg. Co. (N. C.)	75	80	80
Olympia Cotton Mills (S. C.) Pfd.	80	80	80
Orangeburg Mfg. Co. (S. C.) Pfd.	80	80	80
Ort Cotton Mills (S. C.)	103	104	104
Pacolet Mfg. Co. (S. C.)	190	197 1/2	197 1/2
Pacolet Mfg. Co. (S. C.) Pfd.	100	104	104
Pelzer Mfg. Co. (S. C.)	170	173	173
Piedmont Mfg. Co. (S. C.)	167	177	177
Poe Mfg. Co. (S. C.)	122	125	125
Richland Cot. Mills (S. C.) Pfd.	61	65	65

Raleigh Cotton Mills (N. C.)	99	105	105
Roanoke Mills (N. C.)	125	140	140
Saxon Mills (S. C.)	105	106	106
Sibley Mfg. Co. (Ga.)	64	68	68
Southern Cotton Mills (N. C.)	80	80	80
Spartan Mills (S. C.)	145	151	151
Springstein Mills (S. C.)	100	100	100
Trilon Mfg. Co. (Ga.)	142	142	142
Tucapau Mills (S. C.)	165	165	165
Victor Mfg. Co. (S. C.)	115	120	120
Warren Mfg. Co. (S. C.)	99	99	99
Warren Mfg. Co. (S. C.) Pfd.	105	107	107
Washington Mills (Va.)	20	25	25
Washington Mills (Va.) Pfd.	100	115	115
Whitney Mfg. Co. (S. C.)	145	150	150
Wiscasset Mills (N. C.)	122	135	135
Woodruff Cotton Mills (S. C.)	106	110	110

Quotations furnished by William S. Glenn, Broker, Spartanburg, S. C., for week ending September 24.

	Bid.	Asked
Abbeville Cotton Mills (S. C.)	85	85
Aetna Cotton Mills (S. C.) Pfd.	120	125
Aiken Mfg. Co. (S. C.)	85	89
American Spinning Co. (S. C.)	120	125
Anderson Cotton Mills (S. C.)	100	105
Arcadia Mills (S. C.)	87	92
Arkwright Cotton Mills (S. C.)	122	122
Augusta Factory (Ga.)	80	85
Avondale Mills (Ala.)	100	100
Belton Mills (S. C.)	104	108
Bibb Mfg. Co. (Ga.)	117	118
Brandon Mills (S. C.)	117	120
Broson Mills (S. C.)	75	80
Cabarrus Cotton Mills (N. C.)	120	120
Chadwick Mfg. Co. (N. C.) Pfd.	103	103
Chiquola Mfg. Co. (S. C.)	93	96
Clifton Mfg. Co. (S. C.)	120	125
Clifton Mfg. Co. (S. C.) Pfd.	103	103
Clinton Cotton Mills (S. C.)	140	145
Columbus Mfg. Co. (Ga.)	94	97
Courtenay Mfg. Co. (S. C.)	90	90
Dallas Mfg. Co. (S. C.)	90	90
Darlington Mfg. Co. (S. C.)	60	65
D. E. Converse Co. (S. C.)	117	117
Eagle & Phenix Mills (Ga.)	120	120
Enslay Cotton Mills (S. C.)	130	136
Enoree Mfg. Co. (S. C.)	82	89
Enoree Mfg. Co. (S. C.) Pfd.	100	100
Enterprise Mfg. Co. (Ga.)	82	90
Exposition Cotton Mills (Ga.)	174	200
Gaffney Mfg. Co. (S. C.)	89	95
Greenville Cotton Mills (S. C.)	35	35
Greenwood Cotton Mills (S. C.)	102	104
Gluck Mills (S. C.)	92	94
Granby Cot. Mills (S. C.) 1st Pfd.	59	60
Granville Mfg. Co. (S. C.)	155	165
Greenwood Cotton Mills (S. C.)	92	98
Grendel Mills (S. C.)	112	114
Henrietta Mills (N. C.)	200	200
Henrietta Mills (N. C.)	200	200
Inman Mills (S. C.)	95	97
King Mfg. Co. (S. C.)	97	103
Lancaster Cotton Mills (S. C.)	102	110
Lancaster Cot. Mills (S. C.) Pfd.	95	99
Langley Mfg. Co. (S. C.)	92	96
Laurens Mills (S. C.)	160	165
Limestone Mills (S. C.)	109	112
Lockhart Mills (S. C.)	99	102
Lockhart Mills (S.		

The People's Savings Bank of Thomasville, Ga., capital \$25,000, has made application for a charter. The incorporators are T. J. Ball, E. M. Mallette, J. F. Evans and C. P. Hansell.

The Appomattox Trust Co. of Petersburg, Va., will, it is reported, establish a new bank in the city. Charles Hall Davis is president of the Trust Company and B. B. Jones treasurer.

The Bank of Pearson at Pearson, Ga., has been chartered with \$30,000 capital. The incorporators are Hiram F. Sears, Jeff Kirkland, Joe Corbett and James B. Mills, all of Pearson.

The First National Bank of Midland City, Ala., has been approved; capital \$25,000. The organizers are S. M. C. Howell, G. W. Kelly, H. G. Epps, S. D. Hawkins, J. R. Howell and A. J. Beverett.

The People's National Bank of Elkins, W. Va., capital \$50,000, has been authorized to begin business with Thomas J. Arnold, president; Richard Chaffey, vice-president, and J. T. Lingamfalter, cashier.

The Citizens' Bank of McFall, Mo., capital \$10,000, has been granted a charter. The incorporators are Alvin Whitton, C. R. Whitton, C. R. Persinger and others of McFall, and Rufus Whitton of Albany, Mo.

The Farwell National Bank of Farwell, Texas, capital \$25,000, has been approved. The organizers are Walter Farwell of Channing, Texas; James D. Hamlin, Daniel A. Linthicum, Frank L. Fry and E. Chapbell.

A new bank with \$50,000 capital has been organized at South Boston, Va. The officers are J. J. Lawson, president; W. R. Berksdale, vice-president; C. C. Barksdale, cashier, and Cooper Watkins, Jr., assistant cashier.

It is reported that on November 1 a new bank with \$30,000 capital is to be organized at Franklinton, La., under the name of the People's Savings Bank. It is stated that Dr. W. J. Jones will be president and D. N. Magee cashier.

The Old Dominion Permanent Building and Loan Association has been incorporated at Baltimore, Md., with \$104,000 capital by George H. Lennon, Thomas M. Overcash, William H. Deal, Charles E. Hensler and John J. Stumfelsz.

The United States Trust & Banking Co. has been chartered at McAlester, I. T., with \$1,000,000 capital. The officers are F. C. French, president; F. S. Rhodes, vice-president, both of Oklahoma City; W. S. Hawk, McAlester, secretary-treasurer.

The Southern States Fire Insurance Co. of Greensboro, N. C., has been chartered; capital \$500,000. The incorporators are J. W. Fry, J. I. King, J. S. Cox, G. E. Sergeant, W. E. Allen, J. A. Odell, J. W. Scott, R. R. King, A. B. Kimball and J. C. Murchison.

It is reported that a new bank is to be established at Florilla, Ga., by Frank Ethridge and Asa Smith of Jackson, Ben Wright and Scorielle Brothers of Indian Spring, George Best of Camp Ground, A. F. White, W. B. Dozier and Lawson Brothers of Florilla.

The Roscoe State Bank has been organized at Roscoe, Texas; capital \$20,000; to begin business October 1. The officers are Dr. S. B. Roebuck, president; L. E. Jarman, cashier; A. N. Dearing, C. F. Castleberry, J. C. Seal, W. F. Jones and G. F. Light, directors.

The Merchants and Planters' Bank of Newark, Ark., is reported to have begun business with \$10,000 capital. The directors are: President, W. D. Magnus; vice-president, W. T. Magnus; cashier, T. M. Waldrip; I. E. Hawthorne, J. T. Sharp, J. W. Sisk and I. C. Nuckolls.

The Berea National Banking Co. has been organized at Berea, Ky., with the following officers: Sam E. Welch, Jr., presi-

dent; Wright Kelly, vice-president, and John L. Gay, cashier; directors, Dr. S. R. Baker, Wesley Lambert, W. M. Hammond, J. W. Fowler, R. W. Todd, S. F. Parks.

The Clarendon State Bank of Clarendon, Texas, has been chartered with \$25,000 capital by Col. P. R. Stephens and H. D. Ramsey of Clarendon and J. C. Knorpp of Kansas City. Business is expected to begin within 60 days with H. D. Ramsey, president; P. R. Stephens, vice-president; Wesley Knorpp, cashier.

The Southern Life Insurance Co. of Florence, Ala., has filed articles of incorporation. The officers are John T. Ashcraft, president; C. E. Holt, vice-president; J. C. Ott, secretary and treasurer; directors, John T. Ashcraft, A. J. McCrary, E. L. Forsythe, Thomas J. Phillips, L. W. Carden, Polk Comer and J. M. Forsythe.

The First National Bank of Northfork is reported to have begun business at Northfork, W. Va., with \$50,000 capital. The officers are Lester G. Toney, president; Wm. J. Beury, vice-president, and R. B. Parrish, cashier; directors, Lester G. Toney, Wm. J. Beury, L. Kaufman, C. S. Angel, B. F. Tipton, Thomas Miller, W. H. Thomas, J. H. Peters and W. A. Phillips.

The South Florida Loan & Trust Co. of Arcadia, Fla., capital \$1,000,000, has received its charter. The officers are: President, J. J. Heard; first vice-president, T. B. King; second vice-president, W. W. Langford; general manager of field department, M. E. Goldsmith; secretary, Walter Graham; treasurer, Ed Scott; attorneys, Treadwell & Treadwell; financial committee, J. J. Heard, W. H. Simmons, W. H. Seward, C. C. Chollar and J. G. King.

The Western Bankers' Trust Co. of St. Louis, Mo., capital \$500,000, has filed articles of incorporation. The offices of the company will be in the Missouri Trust Building, and J. E. Franklin, president of the Fredericktown Trust Co. of Fredericktown, Mo., will be president. The incorporators are B. F. Edwards, vice-president of the National Bank of Commerce; J. E. Franklin, Fredericktown, Mo.; J. A. Lewis, cashier of the National Bank of Commerce; John Nickerson, vice-president of the National Bank of Commerce, and L. S. Parker of Jefferson City, Mo.

The Interstate Life Insurance Co. of Chattanooga, Tenn., has elected the following officers: E. R. Richardson, president; A. M. Burton, vice-president and general manager; G. M. Neely, vice-president; Bruce P. Shepherd, treasurer; M. C. McGannon, chief medical director; Joseph H. Thompson, chairman of the finance committee; directors, Jos. H. Thompson, Dr. M. C. McGannon, A. M. Burton, Guilford Dudley, Daniel C. Buntin, E. R. Richardson, N. R. Gholson, A. S. Williams, Oliver J. Timothy, Wm. J. Cummins, G. M. Neely, Bruce P. Shepherd, Joseph Frank, Luke Lea, R. J. Lyles, M. H. Richardson and Robert S. Hollins.

New Securities.

Albany, Mo.—The \$15,000 of 5 per cent. 5-20-year city bonds have been purchased at a premium of \$512 by W. J. Hayes & Sons of Cleveland.

Antlers, I. T.—The City Council has voted to issue \$8000 of school-building bonds.

Avondale (P. O. Birmingham), Ala.—It is reported that Otto Marx & Co. of Birmingham have purchased \$25,000 of sewer bonds.

Bainbridge, Ga.—Bids will be received by E. A. Wimberly, city clerk, until 8 P. M. October 15 for \$35,000 of 5 per cent. sewer bonds.

Birmingham, Ala.—It is reported that the Alabama Fair Grounds Co. has author-

ized an issue of \$100,000 of 6 per cent. 20-year first mortgage bonds.

Brookhaven, Miss.—The city has voted to issue \$15,000 of electric-light plant and water-works repair bonds.

Bullard, Texas.—Cherokee county has purchased at 101 the \$2500 of 5 per cent. 10-20-year schoolhouse bonds.

Carrollton, Ky.—An election is to be held, it is reported, to vote on issuing water-works bonds.

Charlottesville, Va.—Bids will be received until October 30 by the Virginia Trust Co. of Richmond, Va., for \$200,000 of 4 per cent. 40-year University of Virginia refunding bonds. Armistead C. Gordon is rector at Charlottesville.

Corpus Christi, Texas.—The \$4000 of 4 per cent. 5-20-year Nueces county bridge bonds have been approved and registered.

Covington, Texas.—The \$5000 of school-building bonds have been approved.

Decatur, Ga.—Bids will be received until noon October 15 by M. I. Stone, chairman water-works committee, for \$39,000 of water-works and \$5000 of sewer 5 per cent. 30-year bonds. John A. Montgomery is Mayor.

Elm Grove, W. Va.—The State Bank of Elm Grove has been awarded at a premium of \$182.50 the \$18,000 of 5 per cent. 10-30-year paving and sewer bonds.

Ensley, Ala.—It is reported that the election to vote on \$65,000 of sewer and high-school bonds has been postponed indefinitely.

Flat River, Mo.—Bids will be received until 6 P. M. October 11 for \$6000 of 4½ per cent. school-building bonds. C. E. Norwine is district clerk.

Giddings, Texas.—It is stated that Lee county is preparing to refund \$28,000 of courthouse bonds.

Girard, Ala.—On October 8 an election is to be held to vote on \$10,000 of school-building bonds.

Guntersville, Ala.—Messrs. F. L. Fuller & Co. of Cleveland have been awarded at par and accrued interest the \$12,000 of 5 per cent. 15-year water-works bonds.

Guthrie, Texas.—The \$19,000 of 4 per cent. refunding bonds of King county have been purchased by the State Board of Education.

Heavener, I. T.—The \$4000 of school bonds have been approved.

Heidelberg, Miss.—Bids will be received until October 2 by S. W. Abney, Town Treasurer, for \$8000 of 6 per cent. school-building bonds. J. F. Bethea is Town Clerk.

Henderson, Ky.—An election is to be held November 6 to vote on \$200,000 of sewer bonds.

Jonesboro, Ark.—It is stated that the School Board will issue \$50,000 of building bonds.

Kansas City, Mo.—An election will soon be held, it is reported, to vote on \$250,000 of park and boulevard, \$225,000 of fire department and \$200,000 of hospital bonds.

Keyser, W. Va.—It is reported that the election to vote on \$50,000 of Mineral county courthouse bonds has been declared off.

Lake Providence, La.—The city has voted to issue \$30,000 of school-building bonds.

Longview, Texas.—It is stated that \$10,500 of 5 per cent. 20-30-year refunding bonds have been approved and registered.

Louisville, Ky.—The election to vote on \$4,000,000 of 4 per cent. 40-year sewer bonds is to be held November 6.

Madill, I. T.—The \$40,000 of water-works bonds have been approved, and it is stated bids for same will soon be asked.

Monticello, Ga.—Jasper county recently voted to issue courthouse bonds.

Miami, Fla.—The Fort Dallas National Bank of Miami is reported to have purchased the \$30,000 of sewer, \$20,000 street

improvement, \$20,000 City Hall, \$15,000 fire department and \$15,000 of park 5 per cent. 30-year bonds.

Moundsville, W. Va.—The election to vote on \$75,000 of bonds failed to carry.

Navasota, Texas.—It is stated that \$17,750 of 4 per cent. 10-30-year refunding bonds have been approved and registered.

New Orleans, La.—Bids will be received by the Board of Liquidation, W. M. Walsmsley, president, until 3 P. M. November 5 for \$750,000 of 5 per cent. courthouse bonds.

Orlando, Fla.—The city has voted to issue \$12,000 of 5 per cent. five-year street-paving bonds.

Poplar Bluff, Mo.—The Little & Hays Investment Co. of St. Louis is said to have been awarded the \$305,000 of 6 per cent. Butler county drainage district No. 7 bonds.

Poplarville, Miss.—The \$25,000 of water-works bonds are reported to have been purchased by P. H. Saunders of the Commercial Bank & Trust Co. of Laurel, Miss.

Quannah, Texas.—Hardeman county has voted to issue \$50,000 of courthouse bonds.

Riverside, Texas.—The \$8500 of 20-40-year school-building bonds are reported to have been purchased by the State School Fund at par.

Rogers, Texas.—The \$12,955 of 5 per cent. independent school district bonds have been approved and registered.

Roscoe, Texas.—The \$6000 of 5 per cent. 20-year school bonds have been approved and registered.

Shawnee, Okla.—It is reported that an election is to be held to vote on the question of issuing bonds for sanitary sewer system.

Smithfield, Va.—Bids will be received by J. W. Holloway, Town Treasurer, until 7 P. M. October 15 for \$10,000 of 5 per cent. 20-30-year school bonds.

Smithfield, N. C.—The \$5000 of 6 per cent. 20-year town hall bonds are reported purchased by J. W. Perry.

Trimble, Tenn.—The city is said to have voted to issue school bonds.

Utica, Miss.—An issue of water bonds is said to have been purchased by the Bank of Hazlehurst.

Waelder, Texas.—The Texas Savings Bank of Houston, Texas, has been awarded at 101.10 the \$8000 of 5 per cent. 40-year schoolhouse bonds.

Warrenton, Va.—Bids will be received by A. R. Bartenstein, chairman finance committee, until noon October 1 for \$25,000 of 4 per cent. 20-30-year reservoir bonds.

Weatherford, Okla.—The Security Savings Bank & Trust Co. of Toledo is reported to have purchased at par \$2500 of 6 per cent. 15-year water-extension bonds.

Webb City, Mo.—The Noel-Young Bond & Stock Co. of St. Louis has been awarded at par and accrued interest the \$7650 of 4½ per cent. 10-year judgment funding bonds.

West Palm Beach, Fla.—Dade county has voted to issue \$40,000 of 5 per cent. district No. 1 school bonds.

Westville, Miss.—The supervisors of Simpson county have authorized an issue of \$40,000 of 5 per cent. courthouse and jail bonds.

Wharton, Texas.—An election is to be held in November to vote on \$4000 of 4 per cent. 5-10-year Wharton county bridge bonds.

At Big Stone Gap, Va., bids will be received by Creed F. Blanton, clerk, until noon October 10 for \$15,000 of 5 per cent. 5-15-year school-building bonds of Richmond District No. 1 of Wise county, Virginia. Further particulars will be found in the advertising columns.

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